Abstracts presented at the 17th International Congress on Oral Pathology and Medicine: Joint Meeting with the British Society for Oral & Maxillofacial Pathology, May 25-30, 2014, Harbiye Military Museum and Cultural Centre, Istanbul, Turkey

ORAL PRESENTATIONS

OVER EXPRESSION OF HUR AND PODOPLANIN MAY PREDICT THE DEVELOPMENT OF ORAL CANCER IN PATIENTS WITH ORAL PRENEOPLASTIC LESION

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Objective: The risk of malignant transformation of oral preneoplastic lesion (OPL) is difficult to assess. The purpose of this study was to evaluate HuR and podoplanin expression in OPL and their role as a marker of oral cancer risk.

Study Design: Fifty-one OPL cases including low and high grade dysplasia were analyzed using immunohistochemistry.

Results: Association between the protein expression patterns and clinicopathologic parameters including oral cancer development were analyzed statistically. Out of 51 cases, 24 (47%) turned into malignancy during the follow-up period. Among the malignant cases 18 (75%) and 10 (42%) showed positive podoplanin and high HuR expression, respectively. OPL with high HuR (0.000) and podoplanin expression (0.029) are predicted to be more potent to transform into malignancy regardless of histopathology.

Conclusions: Taken together, HuR and podoplanin expression could be used as biomarkers to identify OPL patient with substantially high oral cancer risk.

Keywords: HuR, Podoplanin, Dysplasia, Oral cancer

DIAGNOSTIC AND PROGNOSTIC IMPLICATIONS OF CANCER STEM CELLS IN SALIVARY GLAND NEOPLASMS

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Objective: This study aims to determine the implications of the cancer stem cell markers ALDH1, CD166, CD44 and CD24 among different benign, malignant salivary gland tumors and normal salivary glands.

Study Design: The study was conducted on 24 malignant, 24 benign salivary gland tumors and 7 normal salivary gland tissues.

Results: The highest expression of ALDH was by normal tissues followed by benign and malignant tumors. On the contrary, the highest expression of CD166 was by malignant tumors followed by benign tumors then normal tissues. There was no correlation between metastasis, recurrence, histological grade and CSC markers expression. There was significant difference in ALDH1 expression between ACC and PLGA.

Conclusions: CD166 and ALDH1 expression might be used as a marker to differentiate benign and malignant salivary gland tumors. Regarding the prognostic implication there was no difference in the expression of cancer stem cell markers.

Keywords: Cancer stem cell, salivary gland tumors, prognosis

A NEW PROGNOSTIC MODEL FOR EARLY STAGE ORAL TONGUE CANCER

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Objective: Histopathological grading of surgically resected oral tongue squamous cell carcinoma (OTSCC) still an important guide of postoperative management. Several histopathological models have been introduced as prognosticators in OTSCC, but none of them were get acceptance in clinical practice. This study introduces a simple novel model for prognostication of early OTSCC.

Study Design: A total of 311 cases treated for early OTSCC were scored for tumor budding (B) and depth of invasion (D) and then the scored parameters were combined in a predictive model (BD model).

Results: Cases with high BD scores (score 2) were showed to have more loco-regional recurrence and deaths from OTSCC (p = 0.003 and p = 0.0001 respectively). No significant correlation between BD scores and other causes of death was observed.

Conclusions: The current prognostic model is a promising indicator for patients’ survival in early OTSCC. Further validation is recommended.

Keywords: Oral tongue squamous cell carcinoma, BD model, Prognosis
HOX9 EXPRESSION IN SALIVARY GLAND TUMORS: A MULTI-INSTITUTIONAL STUDY

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Objective: To determine the clinicopathological significance of HOX9 immunoreactivity in salivary gland tumors (SGTs).

Study Design: Over a 58-year period 404 benign and malignant SGTs were retrieved from the archives of four Brazilian institutions. Cases were arranged in tissue microarrays and stained by immunohistochemistry for HOX9, CD105 and Ki67. Clinical parameters were also retrieved from patients’ medical charts.

Results: All proteins showed significantly greater expression in malignant compared to benign tumors. HOX9 significantly correlated with tumor location, and to CD105 and Ki67 expression. Only increased expression of CD105 was associated with a lower overall survival rate after univariate analysis.

Conclusions: In contrast to recent data showing HOX9 expression as a prognostic determinant in human neoplasias, it does not seem to correlate with survival of patients affected by SGTs. Overexpression in malignancies and positive correlation with proliferative and neoangiogenic markers, however, may suggest a role in the pathogenesis of these neoplasms.

Keywords: Salivary gland tumors, HOX9, Homeobox B9

EXPRESSION OF THE TOLL LIKE RECEPTOR (TLR) 2, TLR4, TLR7 AND TLR8 IN SQUAMOUS CELL CARCINOMA OF THE HUMAN TONGUE

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Objective: Determine of the expression of Toll-like receptor (TLR) 2, TLR4, TLR7 and TLR8 in tongue squamous cell carcinoma (TSCC).

Study Design: Reverse transcription-polymerase chain reaction and Flow cytometry were used to analyze the expression of TLR2, TLR4, TLR7 and TLR8 mRNA and protein in samples from 50 cancer patients consisting of both tumor and normal tissue.

Results: An increase in TLR2, TLR4, TLR7 and TLR8 mRNA levels was detected in OSCC samples. Tumors exhibited high TLR protein expression, (70.1%, 72.4%, 66.3% and 78.2% for TLR2, TLR4, TLR7 and TLR8, respectively, P < 0.05). Tumors with high TLR2 expression in tumor cells or high TLR4 expression in mononuclear inflammatory cells were significantly associated with a higher probability of lymph node metastasis and increased depth of invasion.

Conclusions: TLR2, TLR4, TLR7 and TLR8 expression appears important to the biological pathogenesis of ESCC. TLRs may represent therapeutic targets for TSCC.

Keywords: Toll like receptor, Squamous cell Carcinoma, tongue, Flow cytometry

HEDGEHOG INHIBITION RESULTS IN THE UPREGULATION OF PRO-TUMOURIGENIC αvβ6 INTEGRIN EXPRESSION AND FUNCTION IN CANCER

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Objective: Aberrant Hedgehog (Hh) signalling has been reported in a number of cancers, and Hh inhibitors are in clinical trials. We have previously reported αvβ6 integrin upregulation in cancer. The objective of this study was to examine the relationship between Hedgehog signalling and αvβ6 integrin.

Study Design: To examine a link between Hh and αvβ6, we overexpressed Gli1 in immortalised keratinocytes. Three-dimensional organotypic assays were used in vitro; and archival human clinical samples were used for in vivo studies.

Results: Suppressing Gli1 significantly increased αvβ6 expression, promoting tumour cell motility and stromal myofibroblast differentiation. In vitro findings were supported using human clinical samples, where αvβ6 and Gli1 were inversely expressed in different cancer types.

Conclusions: Gli1 and αvβ6 are inversely expressed in tumours, and Hh targeting promotes pro-tumourigenic cell functions in vitro. This may have clinical significance, given the incidence of secondary malignancies (including head and neck cancer) in patients treated by Hh inhibitors.

Keywords: Integrin, Hedgehog, cancer

RAMAN MICRO-SPECTROSCOPY FOR RAPID SCREENING OF ORAL SQUAMOUS CELL CARCINO-MA

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Objective: Raman spectroscopy can provide a molecular-level fingerprint of the biochemical composition and structure of cells with excellent spatial resolution and could be useful to
monitor changes in composition for early stage and non-invasive cancer diagnosis.

**Study Design:** In this study, we collected Raman spectra of nuclei, nuclei and cytoplasm of five different oral cell lines (Ca922, Tri146, SC24, DOK and Primer) which were then analysed by principal component analysis (PCA) as a statistical method to discriminate the spectra.

**Results:** Results show good discrimination between cancer and normal cell lines using just the first and second principal components (PCs). The loading plot of the PCs, which elucidates the biochemical features, showed significant contributions of nucleic acid and proteins for nucleoli and nuclear sites and variation in features of lipids for the cytoplasmic area.

**Conclusions:** This technique may provide a rapid screening method and have potential use in early and non-invasive diagnosis of oral cancer.

**Keywords:** oral cancer, Raman spectroscopy, optical biopsy.

**OCT4 EXPRESSION IN ORAL SQUAMOUS CELL CARCINOMA, ORAL EPITHELIAL DYSPLASIA AND NORMAL ORAL MUCOSA**

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**Objective:** OCT4 as a transcription biomarker of undifferentiated cells has been implicated as a marker of cancer stem cells (CSCs). To elucidate the pathological significance of OCT4 expression in oral squamous cell carcinoma (OSCC) we examined its presence in epithelial dysplastic lesions, OSCC and normal oral epithelium.

**Study Design:** OCT4 expression in 24 cases of OSCC, 24 cases of epithelial dysplasia and 24 specimens of normal oral mucosa was evaluated by immunohistochemical staining. Chi-square and Mann-Whitney tests were used for statistical analysis.

**Results:** Positive OCT4 staining was observed in epithelium of 17 cases of normal mucosa and its expression in OSCC and dysplasia was significantly lower than normal oral epithelium (p<0.05). A significant difference of OCT4 expression was also found between oral epithelial dysplasia and OSCC (p<0.05).

**Conclusions:** Difference of expression pattern of OCT4 between normal, dysplastic and cancer cells may probably show the lack of its role in OSCC.

**Keywords:** OCT4, Oral Squamous Cell Carcinoma, Epithelial Dysplasia, Normal Oral epithelium, Cancer Stem Cell.

**MAMMARY ANALOGUE SECRETORY CARCINOMA OF SALIVARY GLANDS IS A DISTINCT ENTITY**

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**Objective:** Acinic cell carcinomas (ACC) show considerable heterogeneity including a sub-set, characterised by an ETV6 translocation [t(12: 15)(p13: 25q)], now regarded as a distinct entity termed ‘Mammary analogue secretory carcinoma’ (MASC). This study aimed to determine the prevalence and characteristic features of MASC.

**Study Design:** 37 ACCs were sub-classified by histological appearance. Tissue microarrays were constructed and all were analysed for ETV6 by FISH and stained for CK7, CK8, Cam5.2, CK14, anylsae, mammaglobin, GCDFP-15, MUC1, MUC4, STAT5a, S100, Ki-67, p63, SMA and vimentin.

**Results:** All subtypes of ACC were identified and all cases contained evidence of mucin, but only two showed histological features suggestive of MASC. Four cases (10%) showed rearranged ETV6 on FISH with all four also being positive for mammaglobin and STAT5a but negative for CK14.

**Conclusions:** Our results support MASC as a distinct entity. Expression of mammaglobin and STAT5a and loss of CK14 as well as FISH can help differentiate it from ACC.

**Keywords:** Mammary Analogue Secretory Carcinoma, Acinic Cell Carcinoma, ETV6-NTRK3 Translocation, Salivary Gland.
CHROMOSOMAL ABERRATIONS IN MUCOEPIDERMOID CARCINOMA OF THE SALIVARY GLAND

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Objective: Mucoepidermoid carcinoma (MEC) is the most prevalent malignant salivary gland tumor. The prognosis of MEC depends a.o. on the histological grading.

Study Design: We determined genome-wide chromosomal copy number aberrations (CNAs) by array Comparative Genome Hybridization (arrayCGH) of 27 MECs.

Results: ArrayCGH-profiles of high grade MEC (n=4) had many CNAs in contrast to low (n=18) and intermediate (n=5) grade tumors. Low grade MEC showed virtually no CNAs. In the intermediate tumors, 1 tumor showed a CNA comparable to high grade tumors, whereas the remainder had a CNA profile alike low grade tumors. The most common gains were segments of chromosomes 3q, 5p, 8q, and 20q, whereas the most common losses were segments of chromosomes 3q, 5p, 8p, 17p, and 18q. In 3/4 of the high grade MEC, 3p14.1 (FOX11), 5p13.1 (PIK3R1), 11q21 (MAML2) and 12p13.2 (EVT6) showed losses.

Conclusions: Correlation between genetics and clinical outcome could lead to an alternative classification of MEC.

Keywords: mucoepidermoid carcinoma, salivary gland tumor, genomic profiling, array comparative genome hybridization

EXPRESSION OF MATRIX METALLOPROTEINASE-2 (MMP-2) AND CARCINOMA ASSOCIATED FIBROBLAST (CAF) IN BENIGN & MALIGNANT SALIVARY GLAND TUMOURS

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Objective: To determine the expression of MMP-2 and CAF in benign and malignant salivary gland tumour samples (SGTs) and the relationship to tumour biology.

Study Design: 15 benign and 35 malignant (SGTs) were utilized. IHC was conducted for MMP-2 & CAF.

Results: Moderate to strong expression of MMP-2 was seen in 33.3% of PA, 30.7% of ACC, 37.5% of MEC & 60% of PLGA & AC respectively, expression was unrelated to histological grades (p = 0.904). CAF showed moderate expression in 14.3% of PA and 8.3% of ACC only, this was also unrelated to histological grades (p = 0.697). However, there was a significant difference between the expression levels of MMP-2 & CAF (p = 0.00).

Conclusions: Expression of MMP-2 & CAF are independent of histological grade and CAF expression is very rare. MMP-2 pathway is preferred to CAF pathway in the pathogenesis of benign and malignant SGTs.

Keywords: MMP-2, CAF, Benign, Malignant, SGTs

OVEREXPRESSION OF AKT2 IN ORAL CANCER CELLS IS DUE TO REDUCED PROTEIN DEGRADATION

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Objective: (1) To confirm Akt2 expression in oral cancer cells and (2) to investigate on the mechanisms of Akt2 overexpression in oral cancer cells.

Study Design: Oral cancer cell lines and human oral keratinocytes (HOKs) were cultured. Western blot analysis and flow cytometry were employed to evaluate Akt expression in all cell lines. Further, each cell line was treated with cycloheximide, an inhibitor of new protein synthesis and Akt2 expression was subsequently evaluated by flow cytometry. The localization of Akt2 and pAkt was assessed by immunofluorescence.

Results: Akt2 was overexpressed in oral cancer cells. When new protein synthesis was blocked by cycloheximide, the degradation rate of Akt2 and pAkt was significantly lower than that in HOKs. Using immunofluorescence technique, Akt2 was intensely stained in cancer cells while Akt2 was minimally expressed in HOKs.

Conclusions: Akt2 overexpression in oral cancer cells was clearly demonstrated and may be due to a reduced rate of protein degradation.

Keywords: oral cancer, Akt2, overexpression, protein degradation

HORMONAL CHANGES IN EXFOLIATED NORMAL BUCCAL MUCOSAL CELLS

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Objective: The present study was undertaken as a baseline study to evaluate the nuclear diameter (ND), cell diameter (CD) and nuclear-cytoplasmic ratio (N: C) and their variation with age in normal buccal smears of female subjects.

Study Design: Buccal smears were collected from 400 apparently healthy individuals and were stained using the standard Papanicolaou laboratory procedure. The CD and ND were measured using a stage micrometer and an ocular micrometer.

Results: The results showed an increase in ND and CD from the 5-10 age groups to 15-35 age groups. In the 15-35 age groups, there was a decline in ND and CD when comparing the first and the second half of the menstrual cycle. There was further decline in ND and CD in the 45-60 age groups.

Conclusions: Age-related alterations with regard to size and pattern of maturation of cells were observed. This study proves that ageing has profound impact on the buccal mucosal cell size.

Keywords: hormonal changes, exfoliated buccal mucosal cell, cellular diameter, nuclear diameter

COMBINATION OF THE FATTY ACID SYNTHASE INHIBITOR ORLISTAT WITH CISPLATIN OR PACLITAXEL: EFFECTS ON METASTATIC TONGUE SQUAMOUS CELL CARCINOMA CELLS

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Objective: Orlistat (ORL) has anti-neoplastic properties by irreversibly inhibiting fatty acid synthase (FASN), an anabolic enzyme highly expressed in several human cancers, including oral squamous cell carcinomas (OSCC). Recent data from our laboratory show the antimetastatic activity of ORL on experimental OSCC and suggest that FASN inhibition may be clinically effective in OSCC chemotherapeutic protocols. In this sense, our work aimed to investigate whether ORL has synergistic effects with Cisplatin (CDDP) or Paclitaxel (PTX) on the metastatic OSCC cell line SCC-9 LN-1.

Study Design: IC50 for each single drug was calculated according to the standard Papanicolaou laboratory procedure. The CD and ND were measured using a stage micrometer and an ocular micrometer.

Results: The results showed an increase in ND and CD from the 5-10 age groups to 15-35 age groups. In the 15-35 age groups, there was a decline in ND and CD when comparing the first and the second half of the menstrual cycle. There was further decline in ND and CD in the 45-60 age groups.

Conclusions: Age-related alterations with regard to size and pattern of maturation of cells were observed. This study proves that ageing has profound impact on the buccal mucosal cell size.

Keywords: hormonal changes, exfoliated buccal mucosal cell, cellular diameter, nuclear diameter
HISTOPATHOLOGIC AND IMMUNOHISTOCHEMICAL EVALUATION OF CELLULAR MARKERS AND PROTOONCOGENE c-FOS IN BENIGN FIBRO-OSSEOUS LESIONS (BFOL) Sonia Dickson, Jose David Mota, Pedro Castillo, Maria Carolina Sanchez, Omar Pinto, Helen Rivera, Oral Pathology Laboratory, School of Dentistry, Central University of Venezuela, Caracas, Venezuela; Anatomopathological Institute “José A. ÓDaly”, School of Medicine, Central University of Venezuela, Caracas, Venezuela

Objective: To determine expression of cellular proliferation markers and protooncogene c-fos.

Study Design: An observational-descriptive study was done on the histopathologic and immunohistochemical findings of 24 BFOL cases, from the Oral Histopathology Laboratory, Central University of Venezuela during 2008-2013. Data was obtained from tumor registry and clinical charts. The lesions were reclassified according to WHO. c-fos, p53, Ki67, p16 and bcl-2 monoclonal antibodies were performed.

Results: Florid osseous dysplasias represented (42%). The mandible was the predominant location (54%). c-fos was expressed in 92%, p-53 (71%), Ki67 (43%) of the BFOL (p<0.05), which is related to proliferative potential of each individual lesion. Ki67 expression was correlated with prognosis and recurrence rate (p<0.05).

Conclusions: c-fos is relevant in the development, growth and inducing cells to cell cycle; c-fos positivity (41%) was mainly observed in osteocytes present in Fibrous Dysplasia. c-fos proved to be useful in predicting biological behavior but not a reliable marker for BFOL differential diagnosis.

Keywords: Benign Fibro-osseous lesions, protooncogene c-fos, c-fos, cellular markers, Histopathology, Immunohistochemistry

ABERRANT Wnt-1/BETA-CATENIN SIGNALING AND WIFI-1 DEFICIENCY ARE IMPORTANT EVENTS WHICH PROMOTE TUMOR CELL INVASION AND METASTASIS IN SALIVARY GLAND ADENOID CYSTIC CARCINOMA Ning Geng, Rui-nan Wang, Yu Chen. Department of Oral Pathology, West China College of Stomatology, Sichuan University, Chengdu, China; State Key Laboratory of Oral Diseases, West China College of Stomatology, Sichuan University, Chengdu, China

Objective: In this study we tried to disclose the potential relationship on Wnt-1/beta-catenin pathway, WIFI-1 and SACC biological behaviors.

Study Design: Expressions of Wnt-1, beta-Catenin, E-cadherin and WIFI-1 mRNA and protein in human SACC cell lines were detected by RT-PCR and western blot. We also evaluated these factors in SACC tissue microarray by immunohistochemistry.

Results: Wnt-1 overexpression was a frequent event in SACC and histologic examinations showed similar findings compared to RI-treated group and less apoptotic cells were observed in acini and ducts. 99mTc-pertechnetate uptake/excretion in ginseng, fucoidan and amifostine treated mice were quite different from those observed in controls.

Conclusions: Ginseng and fucoidan supplement before RI therapy could have similar effects on protecting RI-induced SG damage compared to amifostine administration, may be potential therapeutic agents to restore the function of SG damaged by RI.

Keywords: Salivary gland, Radiiodine, Ginseng, Fucoidan, Amifostine

ABERRANT Wnt-1/BETA-CATENIN SIGNALING AND WIFI-1 DEFICIENCY ARE IMPORTANT EVENTS WHICH PROMOTE TUMOR CELL INVASION AND METASTASIS IN SALIVARY GLAND ADENOID CYSTIC CARCINOMA Ning Geng, Rui-nan Wang, Yu Chen, Department of Oral Pathology, West China College of Stomatology, Sichuan University, Chengdu, China; State Key Laboratory of Oral Diseases, West China College of Stomatology, Sichuan University, Chengdu, China

Objective: To investigate the morphometric and functional changes of salivary gland (SG) after antioxidants (ginseng, fucoidan, amifostine) supplement preceding to radioiodine (RI) therapy in a murine model.

Study Design: C57BL/6 mice were divided into five groups (A. normal, B. RI-treated, C. amifostine+RI-treated, D. ginseng+RI-treated, E. fucoidan+RI-treated). Salivary flow rates, lag times, histological examinations, TUNEL assay and 99mTc-pertechnetate uptake/excretion were performed during 90 days post-RI treatment.

Results: In ginseng, fucoidan and amifostine treated groups, lag times were lower and salivary flow rates were greater than RI-treated group, histologic examinations showed similar findings compared to RI-treated group and less apoptotic cells were observed in acini and ducts. 99mTc-pertechnetate uptake/excretion in ginseng, fucoidan and amifostine treated mice were quite different from those observed in controls.

Conclusions: Ginseng and fucoidan supplement before RI therapy could have similar effects on protecting RI-induced SG damage compared to amifostine administration, may be potential therapeutic agents to restore the function of SG damaged by RI.

Keywords: Salivary gland, Radiiodine, Ginseng, Fucoidan, Amifostine

CYTOMEGALOVIRUS IDENTIFICATION AND QUANTIFICATION FROM THE SALIVA OF HUMAN IMMUNODEFICIENCY VIRUS SEROPositIVE AND SERONEgATIVE PATIENTS USING REAL TIME POLYMERASE CHAIN REACTION Sravanthi Sigarambatla, Divya Upadhye, Uma Devi K. Rao, Elizabeth Joshua, Kannan Ranganathan, Department of Oral and Maxillofacial Pathology, Ragas Dental College and Hospital, Chennai, India; Department of Oral and Maxillofacial Pathology, GITAM Dental College, Visakhapatnam, India

Objective: Oral lesions are diagnostic and prognostic of human immunodeficiency virus (HIV) infection. Cytomegalovirus (CMV) disease typically occurs when latent virus reactivates in Acquired Immunodeficiency Syndrome (AIDS) patients with CD4 cells less than 100. In this study we quantified CMV in HIV seropositive patients and correlated it with oral lesions.

Study Design: Saliva from five HIV seropositive (group I) and five seronegative individuals (group II) with CMV retinitis was used to quantify CMV by Real Time Polymerase Chain Reaction technique (CMV morphologically transforming region mtr II sequence).

Results: CMV viral load was above the threshold level in subjects with intra oral non-specific ulcers and those who had xerostomia (2 cases in group I and 1 case in group II).

Conclusions: Saliva can be used to detect CMV. We suggest that non-specific ulcers in HIV seropositive patients could be
indicative of CMV retinitis especially in those who presented with xerostomia.

**Keywords:** Cytomegalovirus, Human Immunodeficiency Virus, Xerostomia, Non-specific ulcers, Real-time PCR

**EPITHELIAL LOSS CORRELATED WITH DECREASED Beta DEFENSINS AND INCREASED RISK OF CANDIDA INFECTIONS IN ORAL LICHEN PLANUS**

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**Objective:** To correlate epithelial erosion with beta defensin expression in OLP and risk for Candida infections.

**Study Design:** Sample biopsy tissues from 35 cases of clinical OLP vs. appropriate controls were statistically analyzed for beta-defensin expression using quantitative PCR (Q-PCR) and immunohistochemistry.

**Results:** Beta defensins expression was correlated with epithelial integrity in OLP. Loss of epithelial cells due to erosion resulted in concomitant decrease in beta defensins and increased Candida biofilms in vitro.

**Conclusions:** Despite transcriptional upregulation of defensin expression in OLP; the loss of epithelial cells in erosive OLP cohorts results in concomitant decrease in defensins and higher risk of Candida infections. Pre-emptive anti-Candida therapy is advised in erosive OLP.

**Keywords:** Oral lichen planus, beta defensins, oral candida, innate immunity

**DIFFERENTIAL ANALYSIS OF CALB2 GENE EXPRESSION BETWEEN AMELOBLASTOMAS AND KERATOCYSTIC ODONTOGENIC TUMORS**


**Objective:** Evaluate the gene expression of CALB2 on seventy paraffin-embedded Ameloblastoma samples and eighty-six KCOT.

**Study Design:** Use reverse transcriptase-polymerase chain reaction (RT-PCR) to confirm CALB2 gen as a possible specificity bio marker of Ameloblastomas vs KCOT infections.

**Results:** Our partial results show that CALB2 mRNA expression was significantly higher in Ameloblastomas than in KCOT (P < 0.01), similar with our previous immunohistochemical results.

**Conclusions:** This is the first study that compares the gene expression of CALB2 between Ameloblastomas and KCOT’s confirming the possible role of calretinin in the Ameloblastoma pathogenesis.

**Keywords:** CALB2, Ameloblastoma, KCOT

**ORAL CYTOPATHOLOGICAL CHANGES IN ORAL SQUAMOUS CELL CARCINOMA PATIENTS RECEIVING CONCOMITANT CHEMORADIOTherapy IN PAKISTAN**

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**Objective:** CCRT induced cytopathological changes in peritumoural area and normal oral mucosa in OSCC patients.

**Study Design:** Descriptive study. Comparisons between clinical and microscopic parameters were performed with the sample t-test. A difference of P<0.05 was considered to be significant. Tissue blocks of 70 patients diagnosed with OSCC and treated by Concomitant Chemoradiotherapy (CCRT) were collected from the Institute of Nuclear Medicine and Oncology Lahore (INMOL) hospital Lahore, Pakistan. Smears were taken from the contra-laterally clinically normal appearing buccal mucosa and from peri-tumoural areas on specific days of therapy i.e. before treatment, first day, 17th day and at the end of therapy using a wooden spatula. The smears were transferred to frosted glass slides, immediately fixed with 70% ethyl alcohol and stained by H&E, Papanicolaou and Giemsa. The cytological smears were then examined under an optical microscope and the findings were recorded.

**Results:** Inflammatory atypia was obvious at 17th day (71.4%) and end of treatment (88.0%) in normal oral mucosa and for peritumour it was 81.5% and 76.9% respectively. Epithelial atypia in normal oral mucosa was highest (28.6%) at 17th day and in peritumour (37.0%) after immediate exposure. Dysplastic changes were noted in normal mucosa as (20% G-1, 12% G-2) and peitumoural (19.2% G-1, 11.5% G-2 and 7.7 % G-3) at the end of treatment. Nuclear atypia was higher at 17th day and the end of treatment in normal oral mucosa (p = 0.000) and the peritumour (p = 0.000). Significant degenerated and apoptotic cell population observed on both sites (p = 0.000).

**Conclusions:** Atypical and dysplastic changes can occur in patients receiving CCRT which may lead to secondary malignancy in radiation field. Study validate the concept of “Field Cancerization.”

**Keywords:** Concomitant Chemoradiotherapy, oral Squamous Cell Carcinoma and Atypia

**EFFECT OF EPIGENETIC ALTERATIONS ON THE DIFFERENTIATION POTENTIAL OF DENTAL PULP STEM CELLS**

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**Objective:** Dental Pulp Stem Cells (DPCs) are multipotent progenitor cells with ectomesenchymal origin and have the ability of self-renewal and differentiation into multiple lineages. The differentiation of DPCs into adipocytes is a controversial issue. In this study, we investigated genetic and epigenetic mechanisms to explain the variations of the differentiation of DPCs into adipocytes.

**Study Design:** We examined the expression of stem cell and Epithelial Mesenchymal Transition (EMT) markers as well as histone modification enzymes (H3K4me, H3K4me3, H3K9me2, H3K9me3, H3K27me2, H3K27me3, H3K36me2, H3K36me3) as well as methyltransferases and demethylases such as set 7/9, G9a, Ezh2 and JARID1A, JMJD1, JMJD2 both with western blot and immunofluorescence.

**Results:** We found significant difference in the expression of H3K4me, H3K36me3 and set 7/9, JMJD1, JMJD2 in DPCs that have different adipogenic differentiation potential.
Conclusions: The differentiation of DPSCs can be modulated by the factors that affect epigenetic alterations and can therefore be useful in directing the differentiation of DPSCs.

Keywords: DPSC, adipogenic differentiation, epigenetic regulation

DESMOPLASTIC KAPOSI SARCOMA - A NEWLY RECOGNISED ORAL MUCOSAL VARIANT Belinda Kathleen Bunn, Willie Van Heerden, Department of Oral Pathology and Oral Biology, University of Pretoria, South Africa

Objective: To distinguish desmoplastic Kaposi sarcoma (DKS) from other morphological variants of oral Kaposi sarcoma (OKS) and to investigate the possibility of a pathogenetic link to IgG-related disease.

Study Design: Fourteen cases of DKS were reviewed and the clinicopathological features summarised. Immunohistochemical staining for SMA, IgG and IgG4 was performed.

Results: Distinctive features of DKS include:
- Predilection for attached oral mucosa with little surface projection
- Diffuse lateral and deep submucosal extension lacking circumscription
- Stromal fibrosis with occasional aggregates of plasma cells
- SMA stromal positivity
- Absence of storiform fibrosis and obliterator phlebitis
- IgG4: IgG ratio less than 0.1

Conclusions: DKS is a novel variant of OKS. Myofibroblastic transformation within the stroma suggests a tumour microenvironment which favours lesional progression. The low IgG4: IgG ratio, absence of storiform fibrosis and obliterator phlebitis excludes DKS from the spectrum of IgG-related diseases.

Keywords: Kaposi sarcoma, desmoplastic, myofibroblast transformation

PHENOTYPIC VARIABILITY OF CANDIDA SPECIES IN PATIENTS OF ORAL LICHEN PLANUS AND ITS THERAPEUTIC IMPLICATIONS Shelly Arora1, Shalini R. Gupta2, Aadithya B. Ura3, Ravinder Kaur4, Megh Singh5, 1Faculty of Dentistry, SEGI University, Kota Damansara, Malaysia; 2Maulana Azad Institute of Dental Sciences, New Delhi, India; 3Maulana Azad Medical College, New Delhi, India

Objective: To study the prevalence and phenotypic variation of Candida species in oral lichen planus (OLP) and its therapeutic implications.

Study Design: 80 clinically and histopathologically confirmed cases of OLP (64 non-erosive, 16 erosive) and 80 healthy (age and sex matched) individuals, having no predisposing factors for oral candidiasis were studied for evidence of candida infection. Oral swabs and smears were taken for cytology and culture. Identification, speciation and antifungal susceptibility test of Candida isolates were done using automated Vitek-2 (Biomerieux) compact system.

Results: 50% of erosive, 28% of non-erosive OLP and 0% of controls showed evidence of candida on culture. Candida albicans was seen predominantly in non-erosive OLP while non candida albicans was seen in erosive OLP. Non candida albicans isolates (C. glabrata, C. krusei) were resistant to commonly used antifungals (Clotrimazole, Fluconazole).

Conclusions: Candida infection is common in OLP. Antifungal sensitivity prior antifungal therapy in erosive OLP is recommended.

Keywords: candida, erosive lichen planus and non-erosive lichen planus

XEROSTOMIA, GLUCOSE REGULATION AND SERUM INFLAMMATORY MARKERS IN INDONESIANS WITH TYPE 2 DIABETES MELLITUS Hendri Susanto1, Dewi Agustina1, Frank Abbas2, Arjan Vissink3, 1Department of Oral Medicine, Faculty of Dentistry,Universitas Gadjah Mada, Yogyakarta, Indonesia; 2Center for Dentistry and Oral Hygiene, University of Groningen, University Medical Center Groningen, Groningen, The Netherlands; 3Department of Oral and Maxillofacial Surgery, University of Groningen, University Medical Center Groningen, Groningen, The Netherlands

Objective: To assess the association between severity of xerostomia and serum glucose, HbA1c and c-reactive proteins (CRP) levels in Indonesian type 2 diabetes mellitus (DM2) patients.

Study Design: 79 consecutive Indonesian DM2 patients were examined for xerostomia using validated questionnaires and a visual analog score (VAS). Data concerning Serum glucose, HbA1c and CRP levels were collected then analyzed using Chi-square, t-test, Pearson correlation test for normally distributed data, Mann-Whitney U test and Spearman correlation test for non-normally distributed data.

Results: Prevalence of xerostomia in Indonesian DM2 patients was 45%. Serum Glucose and HbA1c level were higher in DM2 patients with xerostomia than DM2 patients without xerostomia. Xerostomia was more severe in DM2 patients with higher serum CRP and glucose levels (p<0.05). Severity of xerostomia was not associated with serum HbA1c levels.

Conclusions: Xerostomia is common in Indonesian DM2 patients. Severity of xerostomia was highest in DM2 patients with high CRP and serum glucose levels.

Keywords: xerostomia, type 2 diabetes mellitus, c-reactive protein, HbA1c

CO-EXPRESSSION OF TLR2 AND TREG IN ORAL SQUAMOUS CELL CARCINOMA Haizal M. Hassainie1, Alison M. Rich2, Trudy Milne2, Praveen V. Parachur3, Gregory J. Seymour2, 1Faculty of Dentistry, National University of Malaysia, Kuala Lumpur, Malaysia; 2Faculty of Dentistry, University of Otago, Dunedin, New Zealand

Objective: To investigate the prevalence and distribution of double stained TLR2+FoxP3+ cells in oral squamous cell carcinoma (OSCC) in comparison with inflammatory control tissue.

Study Design: Archival formalin fixed paraffin embedded tissue (25 cases of OSCC and 12 cases of non-specific mucosal inflammation) were analysed using single and double immunohistochemistry (IHC) for expression of antibodies to TLR2 and FoxP3. The IHC results were validated with double immunofluorescence. The IHC labelling patterns were evaluated using qualitative and quantitative methods by light microscopy with image capture and Image J software.

Results: There was a significantly greater proportion of double-stained TLR2+FoxP3+ cells in the inflammatory infiltrate in the OSCC group (3.3%, SEM 0.6) than in the control group (0.2%, SEM 0.1).
Conclusions: This study has confirmed the presence of TLR2+FoxP3+ cells in the OSCC microenvironment and suggests that these regulatory T cells are able to see native antigen via their TLRs in OSCC.

Keywords: oral cancer, toll-like receptors, regulatory T-cells

TOWARDS DRUG REPOSITIONING FOR ORAL SQUAMOUS CELL CARCINOMA Kellen Cristine Tjioe1, Eva María Galán Moya2, Denise Tostes Oliveira3, Julie Gavard2, 1CNRS, UMR8104, Paris, France / INSERM, U1016, Paris, France / Sorbonne Paris Cité, Université Paris Descartes, Paris, France / Department of Stomatology, Area of Pathology, Bauru School of Dentistry, University of São Paulo, Bauru, Brazil; 2CNRS, UMR8104, Paris, France / INSERM, U1016, Paris, France / Sorbonne Paris Cité, Université Paris Descartes, Paris, France; 3Department of Stomatology, Area of Pathology, Bauru School of Dentistry, University of São Paulo, Bauru, Brazil

Objective: Despite of the improvement of therapeutics, oral squamous cell carcinoma (OSCC) survival remains poor. Our aim was to identify OSCC potential therapeutics through a cell-based screen library composed of 1,280 European-Medicines-Agency (EMA) and Food-and-Drug-Administration (FDA)—approved compounds.

Study Design: Screening was performed with SCC-25 and HaCat (counter-screen) cell lines. Cells were seeded 24 hours prior incubation with 10μM of each drug. Viable cell assay was implemented 3 days after and only drugs that induced at least 40% of cell death were retained.

Results: Chemical screening revealed 9 specific drugs with anti-OSCC properties. Interestingly, they were ineffective in immortalized keratinocytes, as well as other cancer cell lines such as glioblastoma and lymphoma cells. Our work is currently addressing the molecular mechanisms by which some of these drugs may operate in OSCC.

Conclusions: We identify EMEA- and FDA-approved compounds that may potentially be employed in the OSCC treatment. Financial support: Coordenação de Aperfeiçoamento de Pessoal de Nível Superior-Proc.#2788-13-6.

Keywords: squamous cell carcinoma, head and neck cancer, drug screening, statins

IMMUNOHISTOCHEMICAL ANALYSIS OF MASPIN, SYNDECAN-1 AND Ki-67 IN THE KERATOCYSTIC ODONTOGENIC TUMOR Huda Mahmoud Hammad1, Omar Mahmoud Nagrash2, Rima Ahmad Safadi1, 1Department of Oral Medicine and Surgery, Faculty of Dentistry, Jordan University of Science and Technology, Irbid, Jordan; 2Ministry of Health, Irbid, Jordan

Objective: To compare expression of maspin, syndecan-1 and Ki-67 in epithelium of keratocystic odontogenic tumor (KCOT), dentigerous cyst (DC) and ameloblastoma (AB).

Study Design: 26 KCOTs, 11 DCs and 10 ABs were immunohistochemically stained for maspin, syndecan-1 and Ki-67. Maspin and syndecan-1 positivity was analyzed using ImageJ. Ki-67 positive nuclei per 5 high power fields were counted. ANOVA was used for multiple comparisons and Student t-test for pairwise comparisons of mean percentages for significance of immunopositivity in separating diagnostic groups.

Results: No significant differences were found regarding maspin and syndecan-1 (P > 0.05). Ki-67 score was significantly higher in KCOT than DC (P < 0.05), and not significantly different between KCOT and AB (P > 0.05).

Conclusions: Expression of maspin and syndecan-1 is not strongly indicative of differences in proliferative activity of the three lesions. Proliferative activity in KCOT is best assessed by Ki-67, which indicates comparable proliferative activities of KCOT and AB, which are higher than that of DC.

Keywords: keratocystic odontogenic tumor, maspin, syndecan-1, Ki-67

NON-PROLIFERATING PLASMA CELLS DETECTED IN THE SALIVARY GLAND AND BONE MARROW OF NOD.B10.H2b MICE, A MODEL FOR SJÖGREN’S SYNDROME Kathrine Skarstein1, Lara A. Agrawi2, Roland Jonsson2, Karl A. Brokstad2, Ewa A. Szyzsko2, 1Institute of Clinical Medicine, University of Bergen, Bergen, Norway; 2Institute of Clinical Science, University of Bergen, Bergen, Norway

Objective: Autoantibody secreting plasma cells (PCs) are contributors in the development of autoimmune conditions such as primary Sjögren’s syndrome (pSS). The long-lived plasma cell subset residing in the bone marrow has shown to continuously produce autoantibodies, whilst remaining unaffected by immunosuppressive treatment. In this study we aimed to characterize plasma cell compartment in the salivary glands and bone marrow of a novel mouse model of pSS.

Study Design: Bromodeoxyuridine (BrdU) was incorporated to distinguish the long-lived PCs. Double immunohistochemical staining and immunofluorescence were conducted on salivary gland and bone marrow from NOD.B10.H2b mice to identify BrdU and CD138.

Results: BrdU+ cells were observed within all focal infiltrates by 40 weeks of age. CD138+ PCs were BrdU- and located predominantly on the periphery of these infiltrates. A comparable staining pattern was observed in the bone marrow of NOD.B10.H2b mice.

Conclusions: Our results demonstrate accumulation of potentially long-lived PCs in NOD.B10.H2b mice as the disease advances.

Keywords: Sjögrens syndrome, salivary glands, plasma cells, survival niches, NOD.B10.h2b mice, autoimmunity

ODONTOAMELOBLASTOMA AND AMELOBLASTIC FIBRO-ODONTOMA: USING CASE REPORTS TO ILLUSTRATE DIFFERENCES BETWEEN BOTH LESIONS Ibrahim O. Bello, Ahmed Qannam, Department of Oral Medicine and Diagnostic Sciences, College of Dentistry, King Saud University, Riyadh, Saudi Arabia

Background: Odontoameloblastoma has histologic features of ameloblastoma and those of an odontoma while ameloblastic fibro-odontoma combines features of ameloblastic fibroma and an odontoma.

Observations: We here report the cases in two Saudi Arabian patients. Patient 1 was a 42 year old female with a 6 month swelling on the left body of the mandible causing buc-}

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MUCORMYCOSIS IN HEMATOPOIETIC STEM CELL TRANSPLANT PATIENTS: A CASE REPORT AND REVIEW OF LITERATURE

Firoozeh Samim, P. Michele Williams, Department of oral health science, Faculty of dentistry, University of British Columbia, Vancouver, BC

Mucormycosis is a rare opportunistic infection, which represents the third most common angio-invasive fungal infection after candidiasis and aspergillosis and is considered as one of the most important medical complications in humans, particularly in immunocompromised patients and those with diabetes mellitus. Devastating rhino-orbital-cerebral and pulmonary infections are the most common syndromes caused by these fungi. Among patient with malignancy, hematologic malignancies are much more frequently associated with mucormycosis than solid tumors. However, the reported incidence among hematopoietic cell transplant recipient has ranged from 0.1 to 2 percent, with the highest incidence in patients with graft-versus host disease. We report one case of systemic mucormycosis, in a 60 year old men who underwent allogeneic stem cell transplant for acute myeloid leukemia and developed a necrotizing right palatal ulcer extending to right maxilla. Histopathological investigation confirmed the diagnosis of mucormycosis which caused prolong hospital styed and multiple surgical debridement.

Keywords: mucormycosis, Hematopoietic stem cell, transplant, oral ulcer
sclerosing adenosis and fibrocystic disease of the mammary gland. To date, 56 cases of SPA have been reported in the literature; and in only 8 cases minor salivary glands have been involved. We report the first case of SPA in the minor salivary gland of the tongue. A 39-year-old man appeared with a symptom free nodule on the ventral surface of the tongue. The clinical differential diagnosis was benign salivary gland neoplasm and an excisional biopsy was performed. A histologic examination determined that the tumor was a SPA. The patient is disease free in a follow-up of two years. SPA in minor salivary glands is extremely rare. The effective treatment is a localized surgical excision that presents excellent prognosis and no recurrence rates in all published cases.

Keywords: sclerosing polycystic adenosis, minor salivary glands, salivary gland neoplasm, tongue, histopathology

CARCINOMA EX-PLEOMORPHIC ADENOMA OF THE PAROTID GLAND COMPRISED OF HIGH GRADE SALIVARY DUCT CARCINOMA AND KERATINIZING SQUAMOUS CELL CARCINOMA Shino Magaki1, Sunita Bhuta2, Elliot Abemayor3, Vishad Nabilt1, Ali R. Sepahdari1, Chi K. Lai1, 1Department of Pathology & Laboratory Medicine, David Geffen School of Medicine at University of California-Los Angeles, Los Angeles, USA; 2Division of Head and Neck Surgery, David Geffen School of Medicine at University of California-Los Angeles, Los Angeles, USA; 3Department of Radiological Sciences, David Geffen School of Medicine at University of California-Los Angeles, Los Angeles, USA; 4Division of Pathology & Laboratory Medicine, Division of Anatomical Pathology, The Ottawa Hospital, Ottawa, Canada

Carcinoma ex-pleomorphic adenoma is a rare salivary gland malignancy that presents diagnostic difficulties partly due to its wide range of histologic presentations. We report a case of a 77-year-old man who presented with a six year history of a parotid mass that had undergone rapid growth within weeks. Magnetic resonance imaging revealed an infiltrative mass in the parotid gland, fine needle aspiration biopsy of which was highly suspicious for carcinoma. Subsequent excision of the tumor demonstrated a poorly differentiated epithelial neoplasm consisting of keratinizing squamous cell carcinoma and adenocarcinoma with regions of both ductal carcinoma in-situ and invasive salivary duct carcinoma. Only focal areas exhibited a benign pleomorphic adenoma component. To the best of our knowledge, this is the first case of a carcinoma ex-pleomorphic adenoma that consists of both a high-grade salivary duct carcinoma and a keratinizing squamous cell carcinoma in the parotid gland.

Keywords: Carcinoma ex-pleomorphic adenoma, pleomorphic adenoma, parotid gland, salivary duct carcinoma, squamous cell carcinoma

WHITE ORAL PATCHES AS A MANIFESTATION OF AMYLODOSIS IN HIV-PATIENTS UNDER HAART Gabriela Anaya Saavedra, Velia Ramirez Amador, Jesus Casillas, 1Oral Pathology and Medicine Postgraduate Program, UAM-X; 2Clinica Especializada Condesa, Mexico

It has been suggested that prolonged HAART use and aging may contribute to an overall increase in amyloid deposition, potentially mediated by inhibition of insulin degradation enzyme (IDE) or disruption of the axonal transport of the amyloid precusor protein. Thus, oral localized amyloidosis can occur as multiple masses with replacement of lymph nodes or connective tissue, causing lymphadenopathy and mimicking neoplasms. We report two cases of asymptomatic oral white patches in the HIV-positive men, who presented grayish white plaque like lesions on hard palate tongue (25-yr-old), and a brownie white plaque with peripheral white striae in dorsum of the tongue (45-yr-old). Incisional biopsies revealed histological features consistent with a diagnosis of amyloidosis, confirmed with Congo red and crystal violet special stains. In HIV-patients, amyloidosis cannot be ruled out while considering the differential diagnosis of other white lesions of the oral mucosa.

Keywords: Oral amyloidosis, white patches, HIV

SURVIVAL FROM ORAL CANCER IN TEHRAN (IRAN) Donia Sadri1, Kazem Zendeldehi2, Iraj Harirchi2, Zahra Movahedifar1, 1Oral Pathology Department, Islamic Azad University, Dental Branch, Tehran, Iran; 2Research Center Of Iran Cancer Institute, Tehran University Of Medical Sciences; 3Islamic Azad University, Dental Branch, Tehran, Iran

Objective: To evaluate overall survival in incident cases of oral squamous cell carcinoma (OSCC) notified by the Iran Cancer Institute registry between 2003 and 2012.

Study Design: A total of 150 incident cases of OSCC were identified. The variables studied were: age, gender, clinical staging, sub site of tumor, type of treatment and recurrence. Survival analysis was performed using the Kaplan-Meier analysis and comparisons among groups were analyzed by Log-rank test.

Results: Out of the 150 incident cases 99 (66%) occurred in males, 51(34%) in females, the mean age of patients was 67.5±1.4. The 3-year and 5-year survival rate were 58.1% and 38.3 % respectively. Univariate analysis showed that, stage (III,IV), recurrence, age>67yrs, (surgical/radiotherapy) treatment and tumor location in tongue were risk factors affecting prognosis. (p<0.001)There was no statistically significant difference according to survival rate between males and females. (p=0.15)

Conclusions: The poor survival in Iran and other developing country populations are mostly related to delay in early detection of OSCC.

Keywords: oral cancer, survival, tongue, treatment

A STUDY OF STROMAL MYOFIBROBLAST DENSITY IN CLINICO-HISTOLOGIC TYPES OF AMELOBLASTOMA Abdul Warith Olaitan Akinshio1, Olajumoke Ajibola Effiont2, Onalolu Odukoya2, Adekunbiola Aina Banjo3, 1Department of Oral Biology & Oral Pathology, Lagos University Teaching Hospital, Lagos, Nigeria; 2Department of Oral Biology and Oral Pathology, College of Medicine, University of Lagos, Lagos, Nigeria; 3Department of Anatomical and Molecular Pathology, College of Medicine, University of Lagos, Lagos, Nigeria

Objective: To predict biologic aggression of clinico-histologic types of ameloblastoma(CHTA) using immunohistochemistry.

Study Design: 18 samples of each CHTA [solid multicystic ameloblastoma (SMA), desmoplastic ameloblastoma (DA), unicystic ameloblastoma (UA) and ameloblastic carcinoma (AC)] were selected. 3µ sections were immuno-stained for alpha smooth muscle actin (α-sma) using horseradish peroxidase enzyme technique (stromal myofibroblast density (MD) demonstration).
Brown deposits in stromal/tumour cells demonstrated positive reaction. Mean α-sm actin intensity score (Mα-sm IS) and mean α-sm actin quantity scores (Mα-sm QS) for each CHTA were determined (using Lewis et al, 2004 format). Multiple regression was the statistical analysis. Statistical package was SPSS 17.

Results: Mα-sm IS 2.00±0.970 (AC) was higher than 1.78±0.808 for SMA (p<0.001). UA (Mα-sm QS 1.5±0.924) had positive correlation (0.853) with AC, but negative multiple regression weighted -0.086 (p=0.008).

Mα-sm QS were: 2.39±1.14 (AC), 1.94±0.94 (SMA), 1.83±0.71 (DA) and 1.61±0.92 (UA). Difference in Mα-sm QS (AC vs. UA) was significant (p=0.008). AC expressed MD in tumour and stromal cells.

Conclusions: MD expression and CHTA are correlated. Expression is strongest for AC and weakest for UA.

Keywords: Ameloblastoma, Stroma, Myofibroblasts, Density

SAPHO SYNDROME INVOLVING THE MANDIBLE: CASE REPORT Çiğdem Sarıkir, Ilkay Peker, Gazi University Faculty of Dentistry, Department of Dentomaxillofacial Radiology, Ankara, Turkey

Synovitis, acne, pustulosis, hyperostosis, and osteitis (SAPHO) syndrome is a rare disorder of unknown etiology. This report presents a case of SAPHO syndrome.

A 20-year-old male attended to our clinic complaint of recurrent pain and swelling of the right mandible. Medical history revealed that the patient was implemented acne therapy. Dental history showed that mandibular third molars were extracted. In extraoral examination, asymmetry of the face was observed and intraoral examination was unremarkable. A diffuse appositional bony growth surrounding the corpus of the right mandible was observed in cone beam computerized tomography. The patient diagnosed as SAPHO syndrome. Medical treatment including roxithromycin and non-steroidal anti-inflammatory drug (NSAID) was administered. Additionally, the patient underwent 40 cycles of hyperbaric oxygen therapy. The enlargement of the right mandible significantly decreased.

There is no generally accepted treatment strategy for SAPHO syndrome. Conservative treatment with antibiotics, NSAIDs and hyperbaric oxygen therapy are recommended.

Keywords: Sapho syndrome, Chronic osteomyelitis, Medical treatment

ORAL AND MAXILLOFACIAL CONSIDERATIONS IN GARDNER’S SYNDROME: A CASE REPORT Çiğdem Sarıkir, Zähre Zafersoy Akarslan, Ilkay Peker, Gazi University Faculty of Dentistry, Department of Dentomaxillofacial Radiology, Ankara, Turkey

Gardner’s syndrome is an autosomal dominant disease and is a subtype of familial adenomatous polyposis. Multiple osteomas, intestinal polyps, multiple dens bone islands and surface tumors of soft and hard tissues are the manifestations seen in the disease. In this case report a 24 year old male patient with Gardner’s Syndrome, and familial Gardner’s Syndrome history, presenting clinical and radiographic manifestations of the syndrome including persistent primary molar teeth, multiple dense bone islands and multiple impacted teeth both the maxilla and mandible and multiple osteomas in the frontal and ethmoid sinuses is reported.

Keywords: Familial intestinal polyposis, gardner’s syndrome, impacted teeth, osteoma, dense bone islands

IS ODONTOAMELOBLASTOMA A REAL ENTITY? A LITERATURE ANALYSIS Ömer Günhan1, Ömür Dereci2, 1Gülhane Military Medical Academy, Department of Pathology, Ankara, Turkey; 2Eskişehir Osmangazi University, Faculty of Dentistry, Department of Oral and Maxillofacial Surgery, Eskişehir, Turkey

Objective: Odontoameloblastoma is an extremely rare odontogenic tumor which is composed of both epithelial and mesenchymal components. Although odontoameloblastoma is considered to be a separate entity by WHO, some authors question its authenticity. In this study, some examples from our cases were presented and several recent well-established case reports of odontoameloblastoma in English medical literature were analysed in order to understand the true nature of the lesion.

Study Design: The data of our own institutional cases and 9 well-established English-written case reports of odontoameloblastoma were analysed. Figurative data of the studies were extracted and re-evaluated in accordance with WHO classification definition of odontoameloblastoma.

Results: All reported cases in selected studies and our institutional cases were re-diagnosed as in 4 different entities; early stage odontoma, adenomatoid odontogenic tumor, dentinogenic ghost cell tumor and ameloblastic fibro-odontoma.

Conclusions: According to our analysis of our own and reported cases, odontoameloblastoma should not be considered as a separate entity.

Keywords: odontoameloblastoma, ameloblastoma, ameloblastic fibro-odontoma, adenomatoid odontogenic tumor, dentinogenic ghost cell tumor, early stage odontoma

JUVENILE CHRONIC MANDIBULAR OSTEOMYELITIS: HISTOLOGICAL AND IMMUNOHISTOCHEMICAL FINDINGS FROM AN ENIGMATIC INFLAMMATORY CONDITION Brendan Conn1, Victor Lopes2, 1Department of Histopathology, Royal Infirmary of Edinburgh, Edinburgh, Scotland; 2Department of Oral and Maxillofacial Surgery, Edinburgh Dental Institute, Edinburgh, Scotland

Juvenile chronic mandibular osteomyelitis (JCMO) is a paediatric inflammatory condition of unknown aetiology. Patients present with pain, soft tissue swelling and unilateral mandibular enlargement without an identifiable inflammatory trigger. Existing case series lack detailed description of microscopic features.

Method: Sections from 5 patients aged 5-14 with JCMO symptoms were reviewed. Immunohistochemistry for inflammatory cell and stromal markers were performed in all cases.

Results: Zones of active and quiescent disease activity were apparent. Some biopsies featured areas of both. Presumed active areas showed fibroblastic stroma, frequent neutrophils, osteoclastic resorption and deposition of woven bone around an inflammatory nidus. T cells and histocytes outnumbered B cells and plasma cells. Presumed quiescent zones featured maturing bone and a scant infiltrate predominantly of histiocytes. Lymphocytes and plasma cells were of insignificant number.

Conclusions: Histological observation of zones of variable disease activity may explain the unpredictable progressive nature of this interesting, somewhat enigmatic disease process.

Keywords: Juvenile, Mandible, Osteomyelitis, Histology, Immunohistochemistry
RAPID AND SPECIFIC SCREENING ASSAY FOR KRAS ONCOGENE MUTATION BY NOVEL GENE AMPLIFICATION METHOD

Naoyuki Matsumoto1, Akira Kamasuka2, Michisato Okadera1, Yasuyoshi Matsue1, Yoichi Nishikawa1, Kazuo Komiyama1, 1Department of Pathology, Nihon University School of Dentistry, Japan; 2Department of Oral and Maxillofacial Surgery, Tokyo Women’s Medical University, School of Medicine, Japan

Objective: KRAS mutation attenuates treatment effect of cetuximab. The purpose of this study was to develop a rapid and specific method to detect KRAS mutation at codon 12 using novel gene amplification methods.

Study Design: Previously, loop-mediated isothermal amplification (LAMP) assay was developed to amplify copies of particular DNA sequence. LAMP assay is rapid and specific method rather than polymerase chain reaction process. We modified LAMP assay by using peptide nucleic acid (PNA) to suppress an amplification of wild-type allele.

Results: We successfully developed modified LAMP assay in several cultured cell lines. By using this assay, we can amplify DNA fragment of mutated KRAS gene within 20 minutes. Primers bracketing the nucleotides of KRAS codon 12 were designed so that all possible alleles would be amplified by this assay.

Conclusions: The modified LAMP assay is a rapid, and highly sensitive detection assay for cancer mutations.

Keywords: Screening, Mutation, KRAS

LYMPHANGIOMA IN SUBMANDIBULAR GLAND
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Lymphangiomas generally are regarded as hamartomas and represent a developmental malformation of lymphatic vessels. A 40 years old black woman was admitted to the Dental Faculty, complaining of pain especially during eating and a mass in the right submandibular region of the mandible. The CT scan (3D reconstruction) revealed depression at the lower border of the body of the mandible. Microscopic examination of the subsequent excisional specimen revealed normal lobules of submandibular salivary gland, within and between which were numerous large and small vascular spaces containing homogeneous, brightly eosinophilic material. This case is of interest in that it is the first case report of a cavernous lymphangioma within submandibular salivary gland. To the best of our knowledge this is the first report of a lymphangioma as a primary submandibular salivary gland neoplasm, although cavernous lymphangioma has been reported in the parotid gland.

Keywords: Lymphangioma, Cavernous, Submandibular gland

ORAL VERRUCOUS LEUKOPLAKIA AND THEIR PROGRESSION-A SINGLE CENTRE RETROSPECTIVE STUDY
Gayani Pitiyage, Amrita Jay, Department of Histopathology, University College London Hospital, London, UK

Objective: Proliferative verrucous leukoplaikia (PVL) to-date is one of the least explored and least understood lesions of the oral cavity. This study aimed at understanding the variable presentation and progression of PVL.

Study Design: A retrospective study of 10 PVL cases were carried out at UCLH. Following data were obtained for each patient: age at presentation of PVL, sex, site of first presentation, histological findings at first presentation, presence of a lichenoid reaction, local spread and duration of progression to squamous cell carcinoma.

Results: Mean age at PVL presentation in our cohort was 59 years. 60% showed involvement of tongue and 30% buccal mucosa. 50% cases had concurrent dysplasia of which 40% showed moderate-severe dysplasia. A lichen infiltrate was observed in 50% cases. Mean duration for progression to malignancy was 2.9 years (9 months - 9 years).

Conclusions: In our cohort 90% of the patients progressed to squamous carcinoma highlighting the need for further studies into PVL.

Keywords: proliferative verrucous leukoplaikia, dysplasia, progression

MULTIPLE LARGE PERIPHERAL GIANT CELL GRANULOMA: A CASE REPORT
Mustafa Gümüşok1, Murat Özle2, Anıl Seçkin2, Beğüm Okar2, Farid Museyibov3, Özlem Üçok1, Sedat Çetiner2, 1Department of Dentomaxillofacial Radiology, Gazi University, Ankara, Turkey; 2Department of Dentomaxillofacial Surgery, Gazi University, Ankara, Turkey; 3Department of Oral Pathology, Gazi University, Ankara, Turkey

Peripheral giant cell granuloma (PGCG) is the most common oral giant cell lesion. PGCG presumably does not represent a true neoplasm. PGCG is believed to be stimulated by local irritation or trauma besides the causing of PGCG isn’t known exactly. PGCG affects women more frequent than men and mandible more often than maxilla (%60). It is usually seen as red or redhiss-blue, noduler mass on the gingiva or edentulous ridge. PGCG may be sessile or pedunculated and ulcerated or nonulcerated. In the case report; multiple large PGCGs of 48 years old male patient causing facial asymmetry, localized on the gingiva including the alveolar ridge of his maxillary left central incisor-right canin region and mandibular right central incisor-left canin region is presented.

This case report contains radiological, clinical, histopathological findings, as well as diagnosis, treatment, follow-up of 4 months after totally excision of multiple PGCSs.

Keywords: Peripheral giant cell granuloma, mandible, maxilla, multiple lesions, treatment

MALIGNANT SOFT TISSUE TUMOURS: A 14-YEAR RETROSPECTIVE STUDY IN SINGLE TURKISH INSTITUTION
Farid Musa Museyibov, Alaa M. Shuibat, Benay Yıldırım, Gazi university faculty of dentistry, Department of Oral Pathology Turkey

Objective: The aim of this study is to investigate the incidence and clinicopathological data of malignant soft tissue tumors in Turkey.

Study Design: We retrospectively analyzed the medical files of Gazi University Faculty Of Dentistry Department Of Oral Pathology to investigate the clinico-pathological features, location, patient’s age and sex of malignant soft tissue tumors.

Results: A total of 14 patients of malignant soft tissue tumours were retrieved between the period 2000-2014. There were 1 fibromixosarcoma, 1 malignant fibrohistostoma, 2 synovial
sarcoma, 1 Kaposi sarcoma, 1 angiosarcoma, 1 malignant hemangiopericytoma, 5 high grade malignant mesenchymal tumour and 2 undifferentiated malignant mesenchymal tumours. Of these tumours 49% are female, 51% are male. Age for all cases ranged from 16 to 69 with mean age of 43.

**Conclusions:** Malignant soft tissue tumors are rare tumors in maxillofacial area but should always be considered in the differential diagnosis.

**Keywords:** Malignant, soft tissue, incidence

THE EVALUATION OF PROLIFERATIVE AND APOPTOTIC INDEXES IN ORAL LICHEN PLANUS IN TURKEY Alaa M. Shaibat, Benay Yıldırım, Burcu Sengüven, Gazi University Faculty of Dentistry, Department of Oral Pathology, Ankara, Turkey

**Objective:** The aim of this study was to evaluate the expression of apoptosis associated protein DFF-45 and proliferation rate of epithelium PCNA in oral lichen planus.

**Study Design:** The study was performed on 83 lichen planus cases. The lesions were stained with PCNA and DFF-45 immunohistochemically and proliferative and apoptotic indexes were evaluated.

**Results:** The PCNA labelling index and apoptotic index was 0.255 and 0.155 respectively in OLP. In normal oral mucosa PCNA labelling index and apoptotic index was 0.240 and 0.140 respectively. The PCNA index in hyperplastic OLP was 0.236 while it was 0.235 in erosive type. The apoptotic index was 0.028 and 0.043 in hyperplastic and erosive OLP respectively.

**Conclusions:** There were not any statistically significance in PCNA labelling index and apoptotic index between normal and OLP cases. The apoptotic index in erosive form was significantly higher than the hyperplastic type.

**Keywords:** lichen planus, apoptosis, proliferation

NONSPECIFIC GRANULAMATOUS GINGIVITIS: A CASE REPORT Benay Yıldırım, Farid Musa Museyibov, Zeynep Taştan, 1 Gazi University Faculty of Dentistry, Department of Oral Pathology Turkey; 2Gazi University Faculty of Dentistry, Department of Periodontology

Granulomatous gingivitis is a relatively rare, chronic inflammatory disorder with a specific histopathological pattern. It is characterized with focal collection of histiocytes intermixed with an intense lymphositic infiltrate and on occasion well formed histiocytic granulomas with multinucleated giant cells. To diagnose a granulamatous gingivitis, distinctive granulomatous diseases, specific granulomatous infections and foreign body gingivitis must be ruled out. In this study we report a nonspecific granulomatous gingivitis in a 35 years old male patient who presents diffuse enlarged and erythematous maxillary gingiva.

**Keywords:** gingivitis, granulomatous, histocyte

SENTINEL LYMPH NODE BIOPSY IN LOWER LIP CANCER Giacomo Setti1, Atilio Carlo Salgarelli2, Cristina Mugnoni2, Pierantonio Bellini1, Consolo Ugo1, 1Head and Neck Department, Unit of Dentistry and Oral-Maxillofacial Surgery, Modena and Reggio Emilia University, Modena, Italy; 2Department of Dermatology, Head and Neck Skin Cancer Service, Modena and Reggio Emilia University, Modena, Italy

**Objective:** Lower lip SCC neck metastases increase mortality to 50% of cases when involved. Recent NCCN guidelines don’t refer to occult metastases investigation strategy. We report application and results of sentinel node biopsy as diagnostic method in cN0 lesions.

**Study Design:** Through the use of lymphoscintigraphy, performed with colloidal 99Tc injected in the main lesion, 22 patients with cN0 and negative ultrasonography were treated. Tumor staging varies from T1 (77.3%) to T4.

**Results:** Only two cases, both T2, result positive to micro metastases investigation, realized with monoclonal anti-body MNF 116 marking and 200μm microtome sections; either undergo to ND which allowed to identify respectively 1 pN+ each, same neck level of sentinel node.

**Conclusions:** To avoid needless elective neck dissection or a delay of treatment in occult N+ cases, biopsy method can identify metastases presence in cN0 cases, though we suggest expanding the method also to all T1 less than 1 cm.

**Keywords:** lip cancer, sentinel nodes, neck dissection, lymphoscintigraphy, biopsy

SCLEROTHERAPY WITH ETHAMOLIN OLEATE OF BENIGN ORAL VASCULAR LESIONS: WHAT IS THE IDEAL CONCENTRATION? Soraya M.C. Grossmann1, Michel C. Ribeiro1, Mauro H.N.G. Abreu2, Ricardo A. Mesquita1, 1Department of Oral Pathology, School of Dentistry, Universidade Federal de Minas Gerais; 2School of Dentistry, Universidade Federal de Minas Gerais, Brazil

**Objective:** The aim of this study was compare the efficacy of sclerotherapy with Ethamolin Oleate (EO) to treatment of Benign Oral Vascular Lesion (BOVL) in different concentrations.

**Study Design:** A clinical non-randomized survey was carried out during 15 years on consecutive 34 patients with BOVL attended to Universidade Federal de Minas Gerais (FO-UFGM). The patients were treated and included for convenience in three different groups, according the concentration of Ethamolin® (Group 1: 1.25% ; Group 2: 2.50%; Group 3: 5.00%) applied in lesion.

**Results:** Oral vascular lesions were more prevalent in lip of women between 51 to 70 years old. The pure 5% EO showed lower final volume (p<0.001) and number of sessions (p=0.030) when lesions of similar size were treated with different concentrations.

**Conclusions:** This study suggests that 5% OE undiluted reduce the number of sessions and final volume of drug in lesions smaller than 20mm, and can be a choose to treat BOVL.

**Keywords:** vascular lesion; ethamolin; sclerotherapy

MTHFR rs2274976 POLYMORPHISM IS A RISK MARKER FOR NONSYNDROMIC CLEFT LIP WITH OR WITHOUT CLEFT PALATE IN THE BRAZILIAN POPULATION Silvia R.A. Reis1, Ryuichi Hoshi1, Andrea Do Rego Borges1, Lorenza Castro Mariano1, Síbele Nascimento de Aquino1, Jamile Sá1, Patricia De Castro Veiga1, Alena Peixoto Medrado1, Hercilio Martelli Junior1, Ricardo D. Coletta2, 1Department of Basic Science, Dentistry Course, Bahiana School of Medicine and Public Health, Salvador, Bahia, Brazil; 2Department of Oral Diagnosis, School of Dentistry, State University of Campinas, Piracicaba, São Paulo, Brazil; 2Stomatology Clinic, Dental School, State
University of Montes Claros, Montes Claros, Minas Gerais, Brazil

Objective: This study evaluated the association of MTHFR (rs2274976) and MTHFD1 (rs2236225) genes in the pathogenesis of nonsyndromic cleft lip with or without cleft palate (NSCL/P) in the Brazilian population.

Study Design: By using the TaqMan 50-exonuclease allelic discrimination assay, the study genotyped the rs2274976 and rs2236225 polymorphisms in 147 case-parent trios, 181 isolated samples of NSCL/P and 478 healthy controls.

Results: The TDT test showed a significant over-transmission of the rs2274976 A allele (p=0.004), but no preferential parent-of-origin transmission. The case-control analysis revealed that the minor A allele of rs2274976 was significantly more frequent in NSCL/P group compared with control group (p=0.001), yielding an odds ratio of 3.46 (95% confidence interval, 2.05–5.85). No association of rs2236225 polymorphism with NSCL/P was observed in both TDT and case-control analysis.

Conclusions: This study revealed that the presence of the rs2274976 A allele is a risk marker for the development of NSCL/P in the Brazilian population.

Keywords: Nonsyndromic cleft lip with or without cleft palate, polymorphism, MTHFR, MTHFD1, folic acid, susceptibility

SIALOLIPOMA OF MINOR SALIVARY GLAND IN UVULA Kayhan Başak, Şükran Kaygımaz, Nimet Karadayi, Department of Pathology, Dr. Lütfi Kirdar Kartal Research and Training Hospital, Istanbul, Turkey

Lipomatous lesions of the salivary glands are rare, accounting for less than 0.5% of all parotid gland tumours. Distinct microscopic variants of lipoma of the salivary glands, e.g. angiolipoma, fibrolipoma, pleomorphic lipoma and spindle-cell lipoma have been reported. A 45 year-old male patient with mass on uvula was presented. Specimen was capsulated, yellow coloured, soft tissue with 1.3 cm in greatest diameter. Whole-mount section showed tumor composed by mature adipocytes, salivary gland parenchymal tissue and lymphoid follicles surrounded by fibrous capsule. Salivary gland component consist acinar and ductal elements. In some areas, glandular components were atrophic. Lymphoid follicles and focal fibrosis were seen. Oncocytic, sebaceous, and squamous metaplasia were not observed. Sialolipomas were composed predominantly of adipose tissue and showed expansive growth with fibrous capsule. Sialolipomas were reported at parotid gland, submandibular gland, hard and soft palate. To our knowledge, such a case in uvula localization was not previously presented.

Keywords: Sialolipoma, uvula, minor salivary gland

CEMENTO-Osseous Dysplasia of the Maxilla Treated with Subtotal Maxillectomy Kayhan Başak1, Hanife Gülümhal Özdemir2, Sevap Akbulut1, Şükran Kaygımaz1, Nimet Karadayi1, 1Department of Pathology, Dr. Lütfi Kirdar Kartal Research and Training Hospital, Istanbul, Turkey; 2Department of Otorhinolaryngology, Dr. Lütfi Kirdar Kartal Research and Training Hospital, Istanbul, Turkey

Cemento-osseous dysplasias are non-neoplastic, reactive fibro-osseous lesions of tooth-bearing areas. Lesions in anterior mandible and localised only a few adjacent teeth termed as periapical cemento-osseous dysplasia or limited lesion occurring in a posterior jaw quadrant called focal cemento-osseous dysplasia are the same lesions. A 47-year-old male patient was complaining of flux after extraction of a tooth. A panoramic radiograph displayed lobular, irregularly shaped radiopacities involving right maxilla extending from the maxillary alveolus to the inferior orbital border and right maxillary tuberosity. Microradiograph showed unencapsulated, extensive irregularly shaped cementum-like calcifications continuous with normal bone lamella and in fibrous tissue.

In this case, the lesion was related with periapical site of tooth and almost all maxillary wall. Although complete surgical removal is unnecessary after diagnosis, whole maksilla have been affected in our case. Chronic non-specific inflammation and pseudocystic cavities without any rimming osteoblasts of epithelial cells have been existed.

Keywords: Cemento-osseous dysplasia, maxilla, maxillectomy

HISTOLOGIC EVALUATION OF BONE HEALING FOLLOWING LOW LEVEL LASER IRRADIATION (EXPERIMENTAL STUDY) Muhammad Ali Kashmoolal1, Nazih Shaaban Mustafa2, Ali Hussien Al Hussayni3, 1Department of Oral Pathology and Medicine, Kulliyah of Dentistry, International Islamic University Malaysia, Kuantan campus, Kuantan, Pahang, Malaysia; 2Department of Oral and Maxillofacial Surgery, Kulliyah of Dentistry, International Islamic University Malaysia, Kuantan campus, Kuantan, Pahang, Malaysia; 3Department of Oral and Maxillofacial Surgery, College of Dentistry, University of Baghdad, Baghdad, Iraq

Objective: The aim of the present study is to evaluate the effect of low level laser irradiation on zygomatic bone healing in rabbit.

Study Design: A hole was made using a surgical bur in zygomatic bone of rabbit and a low energy laser was applied on bone of experimental group and compared to control non-irradiated group.

Results: This study showed that application of low-energy laser has a promoting effect and facilitate bone deposition in the bony defect of the experimental group when compared to control group.

Conclusions: Application of low-energy laser have promoting effect on acceleration of bone healing.

Keywords: laser, bone healing, experimental, rabbit

FASCIN EXPRESSION IN PLEOMORPHIC ADENOMA AND MUCOEPIDERMOID CARCINOMA Sedigheh Rahro Taban, Sedigheh Kheirandish, Seyyed Mahboobeh Kiani, Department of Oral and Maxillofacial Pathology, School of Dentistry, Tehran University of Medical Sciences, Tehran, Iran

Objective: Pleomorphic adenoma (PA) and Mucocoeplidermoid carcinoma (MEC) are the most common benign and malignant salivary gland tumor. Fascin is an actin binding protein that regulate the organization of cytoskeletal elements that are key cellular structures for environmental guidance and cell migration.

Study Design: 40 PA and 20 MEC were selected from archive of oral and maxillofacial pathology department of Qazvin and Tehran Dentistry School and Qods hospital of Qazvin between 1996-2010. We quantified the intensity and extent of the staining reaction.
Results: There was no significant correlation between Fascin expression and tumor type and intensity in PA and MEC, (P>0.05). Also there were significant differences between Fascin expression and recurrence of PA and staining intensity and age.

Conclusions: Significant correlation between Fascin expression and recurrence of PA suggest that it can have a role in predicting the recurrence of benign tumors such as PA.

Keywords: Pleomorphic adenoma,Mucoepidermoid carcinoma,Fascin expression

LARGE COMPLEX ODONTOMA OF THE MANDIBLE ERUPTING INTO THE ORAL CAVITY: REPORT OF A RARE CASE Maryam Nazmand1, Sepideh Mokhtar2, 1Department of Oral Medicine, Besat Hospital, Tehran, Iran; 2Assistant Professor, Department of Oral and Maxillofacial Pathology, School of Dentistry, Shahid Beheshti University of Medical Sciences, Tehran, Iran

Odontomas are the most common odontogenic tumors. Although, usually asymptomatic, they are often associated with tooth eruption disturbances. In exceptional cases, the odontoma erupts into the oral cavity. Approximately 20 cases of erupted odontoma have been reported in the literature. In contrast to the usual cases of odontoma, erupted odontoma may be painful with swelling and infection. The present study reports a case of odontoma erupted into the oral cavity. This case seems to be one of the largest erupted odontomas reported in the literature. However, despite its large size, it had no associated symptoms. Of consideration is the association of this case with dilaceration of the impacted second molar and the presence of maxillary peg laterals. Since the impacted second molar had the anomaly of dilaceration, its chance for eruption was minimal. Therefore, the tooth was extracted.

Keywords: erupted, odontoma, dilaceration, peg lateral

MCM-2 EXPRESSION IN BENIGN AND MALIGNANT SALIVARY GLAND NEOPLASMS Tsholofelo Kungoane, Department of Oral Pathology, University of the Witwatersrand, Johannesburg, South Africa

Objective: To evaluate for expression of MCM-2, a novel cell cycle biomarker, in a series of salivary gland neoplasms and to correlate this expression with tumour type.

Study Design: Tissue from 19 pleomorphic adenomas (PA), 15 polymorphous low grade adenocarcinoma (PLGA), 11 mucoepidermoid carcinoma (MEC), 11 acinic cell carcinoma (AcCC) and 13 adenoid cystic carcinoma (AdCC) were analysed for immunohistochemical expression of MCM-2. The labelling index (LI) for each tumour was determined by counting the percentage of positive cells per 1000 tumour cells. Kruskal-Wallis test was used to assess differences in LIs.

Results: AdCC showed a significantly higher LI compared to AcCC (p=0.0024), PLGA (p=0.0002), MEC (p=0.0028) and PA (p=0.0001). There were no significant differences in MCM-2 expression between the other tumour types.

Conclusions: MCM-2 was most frequently expressed in AdCC and in small biopsies may be useful to differentiate AdCC from histomorphologic mimics such as PA and PLGA.

Keywords: Immunohistochemistry, MCM-2, salivary gland neoplasms

PAPILLARY INTRALYMPHATIC ANGIOENDOTHELIOMA OF THE CHEEK: A CASE REPORT Jamal Musayev1, Adalat Hassanov1, Bilal Aliyev1, Khumar Ahmadova1, 1Department of Pathology, Azerbaijan Medical University, Baku, Azerbaijan; 2Department of Oral and Maxillofacial Surgery, Azerbaijan Medical University, Baku, Azerbaijan; 3Department of Pathology, Azerbaijan Medical University, Baku, Azerbaijan; 4Unification of Forensic Medical Expertise and Pathological Anatomy, Baku, Azerbaijan

Papillary intralymphatic angioendothelioma (PILA) or Dabska tumor is a rare vascular neoplasia characterized by endovascular papillary proliferations of atypical endothelial cells and anastomosing vascular channels. Slow-growing intradermal nodule and pain are characteristic clinical features for PILA. It has predilection for infants and children and is very rare in adults. A 41-year-old lady presented with a slow-growing mass in the left cheek. Well circumscribed cystic nodule with mixed content was identified in ultrasonographic examination. The mass was excised. Macroscopic evaluation revealed a dark-brown mass 10x20x22 mm in size, containing solid and cystic areas in sections. Histopathological evaluation showed extensively large number of small and irregular vascular channels, and dilated, thin-walled vascular spaces in limited part of specimen. Formation of prominent intraluminal papillary tufts with hyaline cores lined by hobnail endothelial cells were identified within vascular spaces. Histopathological diagnosis was specified as PILA. There was no recurrences during 4-month follow-up.

Keywords: Cheek, cystic tumor, lymphatic vessels, papillary endothelial hyperplasia

IMMUNOHISTOCHEMICAL CHARACTERIZATION OF MMP-9, DENSITY OF LYMPHATIC AND BLOOD VESSELS IN ORAL SQUAMOUS CELL CARCINOMA Andrea Paz Maturana Ramirez, Iris Lucia, Espinoza Santander, Montserrat Reyes Rojas, Juan Pablo, Aitken Saavedra, Gonzalez Alberto Rojas Alayaga, University of Pathology and Oral Medicine, Dental School of Universidad de Chile, Chile

Objective: The aim was evaluate the association between expression of matrix metalloproteinase-9 (MMP-9) and density of lymphatic (LVD) and blood (BVD) vessels in oral squamous cell carcinoma (OSCC).

Study Design: 37 cases of primary OSCC was evaluated by immunohistochemistry with monoclonal antibodies MMP-9, D2-40 and CD34, and the association with clinico-pathological features was evaluated. Spearman correlation analysis and Multiple Linear Regression (MLR) were used.

Results: The mean of percentage of positive MMP-9 cells was 80.3%, the LVD was 42.9 (SD: 24.6) mm² and BVD was 128.0 (SD: 64.6) mm². A significant correlation was observed between LVD and BVD but not with MMP-9. A MLR model shows a significant association between LVD and OSCC in tongue comparing alveolar ridge/gum OSCC (Coefficient B1: 23.4 (95%CI: 4.46; 22.42)) but not with other locations.

Conclusions: Positive correlation between of LDV with MMP-9 and BVD was observed in OSCC. These results may be contributing factors that account for the distinctive clinical-biological behavior of these lesions.

Keywords: MMP-9, lymphatic vessels, blood vessels, oral squamous cell carcinoma

SENCENCE INDUCED BY ETHANOL IN ORAL FIBROBLASTS Elena Riet Correa Rivero1, Yassan Hassona2, Stephen Stewart Prime2, Eric Kenneth Parkinson2, 1Department of Pathology, Federal University of Santa
Objectives: The aim of this study is immunohistochemically evaluation of Bcl2 and EGFR expression in OKC compared with dentigerous cyst and ameloblastoma.

Study Design: 48 cases of OKC, dentigerous cyst and ameloblastoma were immunohistochemically analyzed for the percentage of Bcl2 & EGFR proteins. Biotin-Streptavidin method was used. data were analyzed by T-test. p<0.05

Results: All of ameloblastoma and OKC but none of the dentigerous were positively stained for Bcl2. Expression of Bcl2 was higher in peripheral layer of ameloblastoma and basal layer of OKC. All of ameloblastoma and dentigerous cysts but none of the OKC were positively stained for EGFR. Expression of EGFR was higher in peripheral layer of ameloblastoma.

Conclusions: Severe expression and higher distribution of EGFR protein in peripheral layer of ameloblastoma compared with central layer, has the same pattern of Bcl-2 expression, it would be indicated that proliferative nature of cells decreases from peripheral layer to central layer.

Keywords: ameloblastoma, Bcl2 protein, dentigerous cyst, EGFR protein, immunohistochemistry, odontogenic keratocyst

ANTERIOR MAXILLARY RADIOLUCENCY: A DIAGNOSTIC DILEMMA/PITFALL Maryam Khalili, Sedigheh Rahro Taban, Maryam Jolehar, Department of Oral & Maxillofacial Pathology, School of Dentistry, Tehran University of Medical Science, Tehran, Iran

Radiolucent lesions in anterior maxillary midline are periapical cyst and granuloma, an inflammatory processes result from periodontitis or pulpal disease. These lytic lesions appear as lucencies with regular border in pariapical or interradicular area of teeth. The second step for the lesions involve this specific area are commonly nasopalatin duct cysts. Nasopalatine duct cyst is developmental non-odontogenic cyst that arise from cystic proliferation of epithelial remnant in incisive canal. Also, this lesion shows round, ovoid or heart-shaped radiolucency. Although the lesions mentioned above are common for this area, but we should differentiate them from the other uncommon lesions that may occur in anterior maxillary midline. Differential diagnosis for these radiolucencies are large incisive canal, odontogenic keratocyst, central giant cell granuloma, calcifying odonto- genic cyst and other rarity. Here, we demonstrate a case with radiolucent lesion in anterior maxillary midline but the diagnosis is one of the rarity in this area.

Keywords: Nasopalatin duct cyst, Odontogenic keratocyst, Central giant cell granuloma, Calcifying odonto- genic cyst

SALIVARY α-2 MACROGLOBULIN AS A BIOMARKER OF METABOLIC CONTROL IN TYPE 2 DIABETES Juan P. Aitken1, Andrea P. Maturana1, Carolina M. Ortiz2, Gonzalo A. Rojas3, Irene C. Morales2, Alejandro F. Escobar2

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Objective: This study attempted to associate the salivary A2MG levels with HbA1c test levels in patients with type 2 diabetes (T2DM).

Study Design: Cross-sectional study with prospective recruitment. Samples of saliva and blood from 120 patients with T2DM were obtained and levels of A2MG and HbA1c were
determined. Spearman analysis test was used to identify the association of variables.

**Results:** T2DM patients showed a positive association between A2MG and HbA1c ($r = 0.799$ and $p < 0.0001$).

**Conclusions:** This study indicates the potential use of salivary A2MG as a complementary method in measuring the metabolic control of T2DM.

**Keywords:** Z-2 macroglobulin, type 2 diabetes, saliva, HbA1c, biomarker

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**P53 AND P63 EXPRESSION AND RELATION OF THEM WITH HPV IN ORAL DYSPlastic LESIONS**

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**Objective:** This study aimed to evaluate P53 and P63 expression and their correlation with the presence of Human Papilloma Virus (HPV) in oral dysplastic lesions.

**Study Design:** In this descriptive-analytical study forty paraffin blocks were collected, which included thirty samples of dysplastic lesions (mild, moderate, severe) and ten of mucocoele. Immunohistochemical staining with Envision method was performed for P53 and P63 markers and polymerase chain reaction (PCR) technique for detection of HPV. Data were analyzed by Kruskal-Wallis, Mann-Whitney U and Spearman tests ($\alpha = 0.05$).

**Results:** There was a significant difference in P53 staining only between mucocoele and mild dysplasia and in P63 staining between mucocoele and all the dysplastic lesions ($p < 0.05$). HPV was detected in all the groups, with no significant differences between them ($p < 0.05$).

**Conclusions:** There was no statistically significant correlation between P53 and P63 expression and presence of HPV in oral dysplastic lesions.

**Keywords:** Genes, Human papilloma virus, P53, PCR, Squamous Cell Carcinoma

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**SALIVARY SPLUNC2A AND SPLUNC1 EXPRESSION IS MODIFIED BY HEAD AND NECK CANCER RADIOTHERAPY AND CAN BE ASSOCIATED WITH COLLATERAL EFFECTS**

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**Objective:** The aim of this study was to verify if radiotherapy is able to modify the salivary PLUNC.

**Study Design:** Unstimulated whole-mouth saliva of 65 patients was collected. SPLUNC1 and SPLUNC2A expression were analyzed by western blotting and was compared with clinical-pathological data.

**Results:** Reduction of salivary flow rates was observed during and after radiotherapy. Facial radiation field was correlated with collateral effects, mainly with presence ($p=0.0110$) and severity ($p=0.0143$) of mucositis. Concentration of PLUNC was modified by radiotherapy, observing decreasing of glycosylated SPLUNC2A ($p=0.0001$) levels and increasing of SPLUNC1 ($p=0.0081$) levels in second and third collections. The only association between secondary effects of radiotherapy and PLUNC was the presence of mucositis ($p=0.0363$) and its severity ($p=0.0500$) with SPLUNC1.

**Conclusions:** The present study reported that levels of SPLUNC1 and glycosylated SPLUNC2A are affected by the radiotherapy, suggesting that these proteins may have importance in the oral microenvironment of irradiated head and neck cancer patients.

**Keywords:** Western blotting, PLUNC, mucositis, adverse effects, radiotherapy, head and neck

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**ORAL EXFOLIATIVE LEUKOEDEMA: A CASE REPORT**

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**Objective:** The aim of this study to describe the clinical and cytological features of an Oral Exfoliative Leukoedema case of a 10-years-old child.

**Case:** Oral exfoliative leukoedema is a rare hereditary dyskeratotic hyperplasia of mucous membranes and is known benign disorder. It is an autosomal dominant disorder with variable penetrance and is also named as White sponge nevus. There was no history of familial involvement and extraoral finding. His parents complained of the white lesion which was present since birth. In the intraoral examination a white bilaterally smooth plaque which could not be removed, with no erythema or other structural abnormalities was observed on buccal mucosa. Cytological examination was also confirmed the diagnosis as leukoedema.

**Conclusion:** Because of similarity between oral exfoliative leukoedema and other white lesions of oral mucosa, a thorough clinical history and differential diagnosis are essential.

**Keywords:** Oral exfoliative leukoedema, White sponge nevus, Oral diagnosis, Cytological examination

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**XANTHOCRANULOMATOUS INFLAMMATION OF THE GINGIVA: AN EXTREMELY RARE CASE REPORT**

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Xanthogranulomatous inflammation is a rare form of chronic inflammation, characterized by the presence of lipid-laden macrophages admixed with lymphocytes, plasma cells, neutrophils, and multinucleated giant cells. Etiology of xanthogranulomatous inflammation is uncertain. It has been reported in different organs, such as gall bladder, urinary bladder, kidney, and others. Only one case has been reported with gingival involvement. We report a case with xanthogranulomatous inflammation of gingiva in site of extracted 36th tooth presented with focal gingival enlargement of a 20-year-old woman. Surgical excision was performed for therapeutic and diagnostic purposes. Macroscopically, the specimen was 12×8×5 mm in size, unilaterally mucosa-covered, white-yellow colored in section surface. Histopathologically, abundant collagen fibers and fibroblasts were seen in specimen. Large number of lymphocytes and plasma cells, small foci of foamy macrophages and degenerative calcification were identified within
connective tissue. The specimen was reported as focal fibrous hyperplasia with xanthogranulomatous inflammation and degenerative calcification.

Keywords: Xanthogranulomatous inflammation, gingiva, oral cavity, histopathology

ONCOCYTIC Papillary Cystadenoma in the Parotid Gland with Tyrosine-Rich Crystals: A CASE WITH FINE Needle Aspiration Images

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Papillary cystadenoma is an uncommon salivary gland neoplasm. Minor salivary glands are frequent localization for this neoplasm. Focal or marked oncocytic metaplasia can be seen in some cases. We report a case of oncocytic papillary cystadenoma presented with cystic left parotid mass in 1.5-cm diameter of a 53-year-old male patient. The mass has grown slowly for 5 years and was slightly painful. Fine needle aspiration was performed by using 25-gauge needle by the (cyto)pathologist. Few small sheets of epithelial and oncocytic degenerative cells with extensive necrotic debris on the background were observed in smears. Few tabular-form and not discernible under polarized light crystals were seen also in cytologic material. In histopathological examination unilocular cystic lesion with papillary structures lined by oncocytic cells and tyrosine-rich crystals in the lumen were identified. In conclusion, papillary cystadenoma is uncommon benign tumor for parotid gland and can be accompanied by tyrosine-rich crystals.

Keywords: Papillary cystadenoma, oncocytic cells, parotid gland, tyrosine-rich crystals, fine needle aspiration

ASPERGILLOMA of the MAXILLARY SINUS: A CASE REPORT

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Alveolar soft part sarcoma (ASPS) is a very rare soft tissue sarcoma which grow slowly, painless and soft masses, arises primarily in children and young adults. In children, ASPS most frequently occurs in the head and neck region, especially the tongue or orbit; in older adults, it arises from muscles of the lower or upper extremities. A previously healthy 8-year-old girl noted asymptomatic mass of the right maxillary region, approximately 5 cm in greatest dimension. Herein we present the clinical, radiographic, histopathologic, and immunohistochemical findings of ASPS affecting the oral cavity, with review of the literature on intraoral ASPS in childhood. The name “alveolar” was derived from its pseudo-alveolar appearance with clustered polygonal cells lacking central cohesion. Recent cytogenetic studies revealed chromosome rearrangements at t(X; 17) (p11; q25) resulting in the ASPL-TFE3 fusion gene, but the origin of ASPS still remains unclear.

Keywords: Alveolar soft part sarcoma, childhood, maxilla

PROFILE OF HEAD AND NECK CANCERS IN DR. LÜTFI KIRDAR RESEARCH AND TRAINING HOSPITAL: PATHOLOGY REPORT BASED STUDY

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The data of incidence of head and neck cancers (HNCs) and histological subtypes in Turkey are limited. This study aimed to overview the statistics for HNCs, based pathology report in KEAH.

Conclusions: Most common histological types and rates for males; squamous cell carcinoma-NOS 33.51%, basal cell carcinoma-NOS 31.34%, carcinoma-NOS 5.81%, papillary adenocarcinoma-NOS 5.00% and malignant lymphoma 5.00%.

Keywords: Head and Neck Cancers, histology, pathology report based, topography

ALVEOLAR SOFT-PART SARcoma of the MAXILLA in a Pediatric Patient: Case Report with Literature Review

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Alveolar soft part sarcomas (ASPS) are very rare soft tissue sarcomas which grow slowly, painless and soft masses, arises primarily in children and young adults. In children, ASPS most frequently occurs in the head and neck region, especially the tongue or orbit; in older adults, it arises from muscles of the lower or upper extremities. A previously healthy 8-year-old girl noted asymptomatic mass of the right maxillary region, approximately 5 cm in greatest dimension. Herein we present the clinical, radiographic, histopathologic, and immunohistochemical findings of ASPS affecting the oral cavity, with review of the literature on intraoral ASPS in childhood. The name “alveolar” was derived from its pseudo-alveolar appearance with clustered polygonal cells lacking central cohesion. Recent cytogenetic studies revealed chromosome rearrangements at t(X; 17) (p11; q25) resulting in the ASPL-TFE3 fusion gene, but the origin of ASPS still remains unclear.

Keywords: Aspergillosis, maxillary sinus, histopathology
CT AND MR DISPLAY OF PLEOMORPHIC ADENOMA OF THE PALATE: A CASE REPORT Gediz Gedik, Feruza Çelek, Mehtap Mağlul, Hulya Savaş Mutlu, 1Department of Oral and Maxillofacial Radiology, Omu, Samsun, Turkey; 2Department of Oral and Maxillofacial Surgery, Omu, Samsun, Turkey; 3Department of Pathology, Omu, Samsun, Turkey

Osteochondroma is the most common tumor (60%) of major and minor salivary glands. The significance of lesions lies in the fact that they are more likely to be malignant when associated with minor salivary glands (50%). Benign tumor, though has the potential to attain large size, generally is a symptom-free mass. It appears as painless swelling with a slow growing of salivary gland. Here in our case, we present a 60-year-old male patient with a swelling, who presented with the complaint of a mass enlarged and present for a long time in his right palate site. CT showed a well-defined hypodens nodular lesion, MRI depicted a well demarcated nodular lesion which is 12 mm diameter and heterogeneously enhancing in contrast series. Lesion has excised and histopathological examination determined as pleomorphic adenoma.

**Keywords:** pleomorphic adenoma, palate, minor salivary gland

UNILATERAL LOSS OF TASTE: A CASE REPORT Adil Başman, Mustafa Gümüşök, Utku Aydil, Özlem Üçok, 1Department of Periodontology, Gazi University, Ankara, Turkey; 2Department of Dentomaxillofacial Radiology, Gazi University, Ankara, Turkey; 3Department of Otolaryngology, Gazi University School of Medicine, Ankara, Turkey

In addition of being upsetting, taste disorders can present a big threat on patients with change or lack of taste. Taste abnormalities are divided into 4 main categories: Phantogeusia, hypogeusia, dysgeusia and ageusia. They can have a serious influence on health, however, their diagnosis, pathogenesis and cure is sparse.

To determine the taste loss, sucrose, sodium chloride, caffeine or citric acid are being applied to the tongue. Occurrence of hemorrhage within the epineurium or any neurotoxic effect of the anesthetic can lead to nerve damage resulting of direct needle trauma after local anesthetic injection. In this case report, after the root canal treatment of the lower left second molar tooth, under inferior alveolar bloc anesthesia, we presented both diagnosis and treatment to the patient suffering from total taste loss of the left side of the tongue. A zinc supplementation was prescribed after a zinc deficiency was observed.

**Keywords:** Taste disorder; nerve damage; taste tests; zinc supplementation

OSTEOCHONDROMA OF THE ZYGOMA: REPORT OF CASE AND REVIEW OF LITERATURE So Young Choi, Hak Yeol Yeon, Kyung Rim Kang, Wui Jung Shin, Sam Pyo Hong, Hong In Shin, 1Department of Oral and Maxillofacial Surgery, School of Dentistry, Kyungpook National University, Daegu, Korea; 2Department of Oral and Maxillofacial Surgery, Gil Hospital, Gachon University, Incheon, Korea; 3Department of Oral Pathology, School of Dentistry, Seoul National University, Seoul, Korea;

Osteochondroma is a benign outgrowth of cortical and medullary bone, with a cartilaginous cap projecting from the surface of the involved bone. It probably is not true neoplasm but is thought to represent a developmental or hamartomatous process of bone. Osteochondromas may develop in any bone in which endochondral ossification occurs. The most frequently involved sites, on descending order, are the distal femur, proximal humerus, and proximal tibia. But osteochondroma is very rare in the facial bone; more than half of the lesions occur in the coronoid process and condyle of the mandible. There are just few cases of osteochondroma of the zygoma in the related literature. In this perspective we describe a rare case of osteochondroma occurring on zygoma with review of the literature.

**Keywords:** Osteochondroma, Zygoma

GINGIVAL PYOGENIC GRANULOMA CAUSED BY ORAL ISORETINOIN TREATMENT Yasemin Yaycu Karabulut, Engin Şene, Rabia Arpaci, 1Department of Pathology, Mersin University, Mersin, Turkey; 2Department of Dermatology, Hitit University, Çankırı, Turkey

Retinoids have numerous pharmacological actions and have found therapeutic use in a host of dermatological diseases. Isotretinoin continues to be the systemic drug of choice for the treatment of severe acne. A 22-year-old male with nodular cystic acne for 2 years came to our patient clinic. Dermatological examination revealed multiple comedones, pustules and erythematous nodules localized to the face. He had no systemic disease and his laboratory findings were normal. Isotretinoin was given for first month 0.43 mg/kg per day and following month 0.86 mg/kg per day. During the second month of treatment red painless nodules were seen on the anterior lower palate. The lesions were excised. On histopathological examination chronic inflammatory granulation tissue was seen. According to the clinical and pathological findings the diagnosis was pyogenic granuloma. Side-effects are common to retinoids and pyogenic granulomas on mucos membranes is very rare.

**Keywords:** isotretinoin, gingiva, pyogenic granuloma

PTCH-1 AND Mdm2 EXPRESSION IN AMELOBLASTOMA FROM A WEST AFRICAN SUB-POPULATION: IMPLICATION FOR CHEMO-THERAPEUTICS Akinyele Oluwayinka Adsia, Samuel Ebele Udeabor, Ahmed Oluwatoyin Lawal, Mike Barbeck, Patrick Booms, Robert Sadera, Shahrara Ghanaita, 1Department of Oral Pathology, College of Medical Sciences, University of Ibadan, Nigeria; 2Department of Oral and Maxillofacial Surgery, College of Health Sciences, University of Port Harcourt, Nigeria; 3Department for Oral, Cranio-Maxillofacial and Facial Plastic Surgery, Medical Center of the Goethe University Frankfurt, Frankfurt am Main, Germany; 4REPAIR-Lab, Institute of Pathology, University Medical Center, Johannes Gutenberg University, Mainz, Germany

**Objective:** To characterize the PTCH-1 genetic profile of Ameloblastoma in Nigerian patients as a first step in investigating its potential for chemotherapeutic intervention.

**Study Design:** Retrospective study on twenty-eight FFPE blocks of ameloblastoma cases from Nigeria prepared for antibody processing to PTCH-1 (Polyclonal Anti-PTCH antibody

ORAL AND MAXILLOFACIAL PATHOLOGY March 2015
AGGRESSIVE ADENOMATOID ODONTOGENIC TUMOR MISDIAGNOSED AS DENTIGEROUS CYST SHOWING ADJACENT TOOTH MOBILITY AND ROOT RESORPTION Suna Erkilic1, Bilal Ege2, Mutan Hamdi Aras2, 1Department of Pathology, Faculty of Medicine, Gaziantep University, Gaziantep, Turkey; 2Department of Oral & Maxillofacial Surgery, Faculty of Dentistry, Gaziantep University, Gaziantep, Turkey

Adenomatoid odontogenic tumor (AOT) is an uncommon benign odontogenic tumor which is painless, noninvasive and grows slowly. It generally appears to be unicellular radiolucency surrounding the crown of unerupted teeth in the maxillary anterior region at the age of second decade in females. However, we introduce a rare case of AOT growing with significant aggressive behavior such as displacement and root resorption of teeth, expansion and partial perforation of bone around the unerupted mandibular canine. A 13-year-old girl was referred to our clinic with painless swelling and tooth mobility in the left mandibular region. Histopathological examination diagnosed as AOT composed solid nodule of cuboidal epithelial cells with small amount of eosinophilic material after biopsy. Followed by, total excision of the lesion was excised and the healing of post-operative 6th month was uneventfully.

Keywords: Adenomatoid Odontogenic Tumour, odontogenic tumor, mandible

METASTATIC RENAL COLLECTING DUCT CARCINOMA OF THE ORAL CAVITY AFTER TOOTH EXTRACTION: A RARE CASE REPORT Suna Erkilic1, Aydin Keskinruezgar2, Zehra Bozdag1, Omer Gunhan4,1Department of Pathology, Faculty of Medicine, Gaziantep University, Gaziantep, Turkey; 2Department of Oral & Maxillofacial Surgery, Faculty of Dentistry, Gaziantep University, Gaziantep, Turkey; 3Department of Pathology, Gulhane Military Medical Academy, Ankara, Turkey

Metastatic cancers of the oral cavity are uncommon. They may occur in the oral soft tissues or in the jawbones. The primary sites of the oral metastatic tumors are lung, kidney, liver, and prostate, breast, female genital organs and colo-rectum. A 54-years old man presented with erythema and swelling of the left mandible after tooth extraction. The lesion was similar to pyogenic granuloma by inspection. A biopsy taken from the gingival tissue and extraction socket showed adenocarcinoma, indicating metastasis of undiscovered primary cancer. As hematuria was learned from his medical history, patient’s urinary system was investigated and renal mass was detected. Biopsy from the mass showed the same histopathologic features with gingiva diagnosed as collecting duct carcinoma. The patient has been treated with chemotherapy. According to our knowledge our case is the first one in the literature as metastatic renal collecting duct carcinoma of the oral cavity after tooth extraction.

Keywords: Collecting duct carcinoma, renal cell carcinoma, metastasis, oral cavity, tooth extraction

PLEXIFORM NEUROFIBROMA OF THE TONGUE Suna Erkilic1, Zehra Bozdag1, Fatih Celenk2, 1Department of Pathology, Faculty of Medicine, Gaziantep University, Gaziantep, Turkey; 2Department of Otorhinolaryngology, Faculty of Medicine, Gaziantep University, Gaziantep, Turkey

Although benign peripheral nerve sheath tumors of head and neck are common, these tumors are rarely seen in oral cavity. 4-7% of patients affected by neurofibromatosis display oral manifestations. A three year old boy with a history of congenital tongue mass was presented to our hospital. His parents realised growing of the mass for last 5 months. Oral cavity examination showed a soft mass, was 2 cm in size. There was a history of congenital heart disease including pulmonary valve stenosis and atrial septal defect. There was cafe-au-lait spots without cutaneous neurofibromas on physical examination. On pathologic examination, the lesion consisted of numerous nerve cells and ganglion cells mixed with spindle cells within a fibromyxoid stroma was positive with S100. The lesion reported as plexiform neurofibroma. We reported this case according to the rarity. Neurofibromas of the tongue should be kept in mind in the differential diagnosis of tongue masses.

Keywords: Tongue, Plexiform Neurofibroma, Neurofibromatosis

GHOST CELL ODONTOGENIC CARCINOMA. A CASE REPORT AND REVIEW OF THE LITERATURE Margarita Alberola1, Sherley Diaz1, Berta Ferrer1, Myram Martos2, Juan Antonio Hueto2, Sahyly Siurana3, Socorro Bescos2, Santiago Ramón Y. Cajal1, 1Pathology Department Vall d’Hebron University Hospital, Barcelona, Spain; 2Oral and Maxillofacial Surgery Department Vall d’Hebron University Hospital, Barcelona, Spain; 3MR Unit (IDI) Radiology Department Vall d’Hebron University Hospital, Barcelona, Spain

Introduction: Ghost cell odontogenic carcinoma (GCOC) is a rare, malignant tumor, less than 30 cases reported. The main differential diagnosis is ameloblastic carcinoma. The biological behavior is variable, indolent or aggressive, however distant metastases are uncommon.

Case Report: A 70-year-old female presented with maxillary pain. MRI revealed an extensive mass on the right side of the palate with invasion of pterygoid apophysis and second portion of trigeminal nerve. The patient underwent right maxillectomy. Adjuvant radiotherapy was given.

Results: Tumor measured 3.9×3.5cm. Histology showed proliferation of odontogenic type, ameloblastic-like, arranged in islands and trabeculae with atypia and mitosis. Anucleated eosinophilic aggregates (ghost cells) were trapped in the epithelium. Surgical margins were focally affected.

Conclusion: In the differential diagnosis with ameloblastic carcinoma, the ghost cells are the clue. The recommended treatment is wide surgical excision; utility of adjuvant radio/chemotherapy is controversial. The patient is alive, disease free, after 6 months.

Keywords: Ghost Cell, Odontogenic Carcinoma, Odontogenic Tumor
THE EFFECT OF CHROME-COBALT AND ACRYLIC PALATAL PLATES ON EXPERIMENTAL DENTURE STOMATITIS IN WISTAR RAT

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Objective: To compare effect of acrylic and chrome-cobalt on experimental oral candidiasis.

Study Design: 72 male Wistar rats were divided into group 1 and group 2 experimental groups and a control group. Group 1 includes animals fitted with acrylic palatal plates, 12 of them inoculated with candida albicans, group 2 includes animals fitted with chrome-cobalt palatal plates, 12 of them inoculated with candida albicans. The control group includes animals inoculated with candida albicans on palate, and animals left without any treatment.

Results: Palatal candidiasis resulted in group 1, with alternating epithelial hyperplasia and atrophy, intra-epithelial polymorphonuclear leukocyte infiltration and chronic inflammatory cell infiltration in connective tissue, transmission of candida from yeast into mycelium was observed. Group 2 did not exhibit palatal candidiasis; but only slight hyperkeratosis and slight epithelial hyperplasia.

Conclusions: Presence of acrylic in association with Candida albicans is required for oral candidiasis, while Chrome-Cobalt Inoculated with Candida albicans caused hyperkeratosis and slight epithelial hyperplasia.

Keywords: experimental, oral candidiasis, candida albicans, chrome-cobalt, acrylic, rat.

IMMUNOLOGICAL CHANGES IN SECONDARY SJOGREN SYNDROME (COMPARATIVE STUDY)

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Objective: This study was designed to investigate the effect of new implant coating material on postoperative bone healing process.

Study Design: Experimental formula of flax oil-based implant coating was prepared. Twelve (12) white New Zealand male rabbits were randomly distributed into four groups (n=3). Surgery was performed to prepare 2 mm hole in the zygomatic bone. The right side was filled with the test material (test group), whereas the hole in the left side of the same animal was left material free. Bone healing process was investigated after 3, 7, 14, and 21 days.

Results: New growth of normal bone explained by active bone apposition was observed in the test operation area in the narrow space after three days, less postoperative inflammation was observed explained by less inflammatory cells in the operation area.

Conclusions: The new formula could represent a promising implant coating material for better bone healing process and hence faster osseointegration.

Keywords: Flax seed, coating, implant, Bone, Rabbit

CASTLEMAN DISEASE: A DIAGNOSTIC DILEMMA

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Castleman Disease (CD) is a benign lymphoproliferative disease. The etiology is still unknown. It was first described by Castleman et al. in 1956. Clinically it is rare and is always a diagnostic dilemma. It mostly seems in adults and it is rare in children. Mediastinum is the most common location and followed by neck, abdomen and axilla. It might be also found in lymph nodes in any region of the body. There are two pathological subtypes such as hyalen vascular type (%90) and plasma cell type (%10). In the parotid region it is also rare and very difficult to reach the correct diagnosis particularly with fine needle aspiration (FNA) and also by histologically.

Here we present a rare case of CD in parotid gland region findings of FNA and histological features.

Conclusions: Secondary Sjogrens syndrome had a significantly positive rheumatoid factor, antinuclear antibody, anti Ro (SS-A) and anti La (SS-B) compared to rheumatoid patients without Sjogrens syndrome.

Keywords: Immunological Changes, Secondary Sjogren Syndrome

THE EFFECT OF NOVEL FLAX OIL-BASED IMPLANT COATING ON BONE HEALING PROCESS (IN VIVO ANIMAL STUDY)

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Conclusions: Presence of acrylic in association with Candida albicans is required for oral candidiasis, while Chrome-Cobalt Inoculated with Candida albicans caused hyperkeratosis and slight epithelial hyperplasia.
Keywords: Castleman, salivary gland, lymph node

OSTEOsarcoma of the sinonasal cavity in a child Rabia Bozdogan Arpacı1, Yasemin Yüycü Karabulut1, Tuba Kara1, Ebru Serinoz; Linke2, Gulfeliz Gönülşen2, Kemal Görür2, 1Department of Pathology, Mersin University, Mersin, Turkey; 2Department of Pathology, Cukurova University, Adana, Turkey; 3Department of Otorhinolaryngology, Mersin University, Turkey

Osteosarcoma (OS) is the most common primary malignant neoplasm of bone. Only 6% to 30% of maxillofacial osteosarcomas have been detected in the first or second decade. It occurs usually in bones of the jaw and has rarely been reported in the nasal cavity or paranasal sinuses. Osteosarcomas arising in paranasal sinuses are usually high-grade malignancies. We report a rare case of an chondroblastic osteosarcoma in the nasal cavity of a 8-year-old female with clinical and histopathological features.

Keywords: nasal, osteosarcoma, child

THE PREVALENCE OF BIFID MANDIBULAR CONDYLE DETECTED ON CONE BEAM COMPUTED TOMOGRAPHY IMAGES IN A TURKISH POPULATION Cansu Buyuk1, Kaan Gunduz1, Erol Ergrioglu2, 1Faculty of Dentistry, Department of Oral and Maxillofacial Radiology, Ondokuz Mayis University, Samsun, Turkey; 2Science and Art Faculty, Department of Statistics, Ondokuz Mayis University, Samsun, Turkey

Objective: The aim of this study was to determine the prevalence and orientation of bifid mandibular condyle (BMC) in a Turkish patient population.

Study Design: Cone beam computed tomography (CBCT) images of 634 consecutive patients were retrospectively reviewed.

Results: 10 (%1.6) of the 634 patients, 6 women and 4 men with age ranging from 9 to 87 years had BMC. Eight (%80) cases were on the right side an two (%20) cases were on the left side. All of the cases investigated in this study had unilateral BMCs and had anteroposterior orientation.

Conclusions: Although BMC is a rare condition, it may be more prevalent in the Turkish population. With more widespread use of CBCT on epidemiological studies, more detailed information about BMC can be gained.

Keywords: bifid condyle, cone beam computed tomography, CBCT images, temporomandibular joint

A REPORT OF CASE: CENTRAL GIANT CELL GRANULOMA, DIAGNOSE, TREATMENT AND FOLLOW-UP Duygu Göller Bulut1, Emin Murat Canger1, Emrah Soylu2, Gülşah Çubukçu2, 1Department of Oral and Maxillofacial Radiology, Erciyes University Dentistry Faculty, Kayseri, Turkey; 2Department of Maxillofacial Surgery, Erciyes University Dentistry Faculty, Kayseri, Turkey

The central giant cell granuloma (CGCG), is an uncommon, non-neoplastic, and proliferative benign bony lesion with unknown etiology. The lesion occurs less than 7% of all benign lesions of the jaws and is commonly found in the mandible, in children and young adults, predominantly females. Its aggressive form has a rapid growth potential and has high rate of recurrence.

An 11-year- old male patient referred to our clinic with a complaint of painless swelling on his left anterior mandible. The radiographic examination revealed unilocular radiolucency with definite sclerotic border extending from teeth numbered 33 to 41. The teeth 31 and 32 didn’t respond to vitality test. Also cone beam computed tomography (CBCT) revealed that buccal and lingual cortical bone perforation. The histopathology examination of lesion was reported as CGCG. The lesion was totally excised. After eight months follow up, the patient didn’t reveal any complaint.

Keywords: Giant cell granuloma, giant cells, swellings of anterior mandible, CBCT

WELL-DEFINED RADIOlucent lesion and a rare anatomical variation bilateral canalis sinuosus in the maxilla and role of CBCT in diagnosis Emre Köse1, Ahmet Ercan Şekerçi1, Emrah Soylu2, Sinan Nazlım2, 1Department of Oral and Maxillofacial Radiology, Dentistry Faculty, Erciyes University, Kayseri, Turkey; 2Department of Oral and Maxillofacial Surgery, Dentistry Faculty, Erciyes University, Kayseri, Turkey; 3Department of Pathology, Medicine Faculty, Erciyes University, Kayseri, Turkey

The nasopalatine duct cyst (NPDC) is the most common non-odontogenic cyst of the maxilla. It is unique in that it develops in only one location which is the midline of the anterior maxilla, in close relationship to the nasopalatine canal. These cysts are normally asymptomatic unless they are infected. The most commonly reported clinical symptom is swelling in the anterior part of the palate. Therefore, the tentative diagnosis NPDC is often based on a coincidental radiological finding on a routine panoramic view or occlusal radiograph. Radiologic examination demonstrates a well-demarcated cystic structure that may appear round, ovoid or heart-shaped. Canalis sinuosus which includes neurovascular branch, extends from the inferior wall of the orbit to hard palate. This rare variations of maxilla is usually related with nasopalatine canal. This report documents clinical, radiographical and histopathological findings of NPDC and a rare anatomical variation of bilateral canalis sinuosus.

Keywords: nasopalatine duct cyst, canalis sinuosus, non-odontogenic cyst, cbct

TIP III DENS INVAGINATUS: A CASE REPORT Cansu Buyuk4, Kaan Gunduz1, Bora Oezden2, Hizir Ilyas Kose2, 1Department of Oral and Maxillofacial Radiology, Ondokuz Mayis University, Samsun, Turkey; 2Department of Oral and Maxillofacial Surgery, Ondokuz Mayis University, Samsun, Turkey

Dens invaginatus is a rare developmental malformation of teeth resulting from the invagination of enamel organ into the dental papilla. Dens invaginatus classified by Oehler into three categories according to the depth of penetration and communication with periapical tissues or periodontal ligament. Treatment plan varies from restorative methods to extraction. This article reports that diagnosis and treatment of a type III dens invaginatus in the left maxillary lateral incisor.

Keywords: dens invaginatus, dens in dente, maxillary lateral incisor
PRIMORDIAL ODONTOGENIC TUMOUR: CLINICO-PATHOLOGIC ANALYSIS OF SIX CASES OF A PREVIOUSLY UNDESCRIBED ENTITY Adalberto Mosqueda Taylor1, Fabio Ramoa Pires2, José Manuel Aguirre Urizar3, Roman Carlos Bregni4, José Mario De La Piedra Garza5, Rafael Martinez Conde6, Guillermo Martinez Mata7, Sergio J. Carreño Alvarez8, Henrique Martins Da Silveira9, Bruno Santos De Barros Dias10, Oslei Paes De Almeida11, 1Departamento de Atención a la Salud, Universidad Autónoma Metropolitana Xochimilco, México D.F.; 2Patología Bucal, Facultad de Odontología, Universidad del Estado de Río de Janeiro, Brazil; 3Departamento de Estomatología II. UFI Faculdade de Odontologia, Universidade do Estado do Rio de Janeiro, Brazil; 4Centro Clínico de Cabeza y Cuello/Hospital Herrera-Llerandi, Guatemalan City, Guatemala; 5División de Estudios de Posgrado e Investigación, Facultad de Odontología, Universidad Nacional Autónoma de México, México D.F.; 6Facultad de Odontología, Universidad Autónoma de Chihuahua, México; 7Hospital Central Sur de Alta Especialidad, Pemex, México, D.F.; 8Cirurgia Bucomaxilofacial, Hospital Universitario Pedro Ernesto, Universidade do Estado do Río de Janeiro, Brazil; 9Facultad de Odontología de Piracicaba, UNICAMP, Brazil

Objective: To describe the clinico-pathological and immunohistochemical features of six tumours that do not fulfill the criteria of any of the currently classified odontogenic tumours.

Study Design: Collaborative retrospective clinico-pathological study.

Results: Three males and three females, mean age 11.5 yr. All tumours were composed of variably cellular to loose fibrous tissue similar to dental papilla, surrounded by epithelium resembling the internal epithelium of the enamel organ. Mesenchymal tumoral tissue was only positive for vimentin (S-100, resembling the internal epithelium of the enamel organ. Mesenchymal tissue similar to dental papilla, surrounded by epithelium

Conclusions: Ki-67 expression was very low (<2%). Epithelium was positive for CK14 and CK19, but CK18 and CK20. Subepithelial hyalinization was seen in two cases.

Keywords: fibrous dysplasia, animal model, cell line, bone

CLINICOPATHOLOGICAL STUDY IN ELEVEN CASES OF ORAL GIANT CELL FIBROMA AND FREQUENCY OF THIS ENTITY IN THE UNIVERSITY OF CHILE BETWEEN 1980 AND 2013 Daniela Adorno Farias, Andrea Maturana Saavedra, Ana Ortega Pinto, Department of Oral Pathology and Medicine, Chile University, Santiago, Chile

Oral giant cell fibroma is a benign fibrous neoplasm characterized by the presence of mono-, bi- or multinucleate spindle-shaped or stellate giant cells that are mainly found in subepithelial connective tissue and does not seem to be associated with chronic irritation. The purpose of this research was to report the main clinical and histological features of 11 patients who were referred and treated in the Oral Pathology and Medicine Service by oral giant cell fibromas. Besides we also determined the frequency of this entity in oral mucosal biopsies sent to the Service of biopsies of the University of Chile between 1980 and 2013.

Keywords: oral giant cell fibroma, Clinicopathological features, frequency

EVALUATION OF ORAL SYMPTOMS AND COMPLAINTS AS A RESULT OF RADIOTHERAPY IN PATIENTS WITH HEAD AND NECK CANCER REFERRING TO TABRIZ IMAM REZA HOSPITAL IN 2013 Ali Taghavi Zenouz1, Mahdi Vatankhah2, Alireza Nasiri3, Masoumeh Mehdipour4, Mahdi Khaliili5, Marzieh Aghazadeh1, Masoumeh Johari6, 1Oral Medicine Department of Dental Faculty; 2Radiology Department of Imam Reza Hospital; 3Radiology Department of Dental Faculty, Tabriz, Iran

Objective: The present study was conducted to evaluate persistence and frequency of symptoms and signs of patients with head and neck cancers, undergoing radiotherapy.

Study Design: Oral symptoms of 89 patients were assessed by QLQ-C30 questionnaire (a modified version according to cultural points) just after the radiotherapy and 3 months later. Data was analyzed by t-test, and Wilcoxon and Kruskal-Wallis tests using SPSS 15.

Results: The most frequent permanent and temporary symptoms were xerostomia (95.2%) and mucositis, respectively. The overall symptoms (burning mouth, liquid dysphagia, hoarseness, altered speech and altered sense of smell) improved over time, with no significant differences between pre-treatment period and 3-month post-treatment interval. Sticky saliva, solid dysphagia and xerostomia improved, while a significant difference remained compared to baseline (p<0.001).

Conclusions: Oral complications related to mucositis ameliorated over time but the overall symptoms that were influenced by salivary changes were persistent.

Keywords: head and neck cancer, radiotherapy

ESTABLISHMENT OF THERAPEUTIC EFFECT ASSESSMENT MODEL OF FIBROUS DYSPLASIA Sunao Sato1, Yuri Noda1, Kaori Oya2, Yu Usami2, Mitsunobu Kishino1, Yuco Ogawa3, Satoru Toyosawa4, 1Department of Oral Pathology, Osaka University Graduate School of Dentistry, Osaka, Japan; 2Clinical Laboratory, Osaka University Dental Hospital, Osaka, Japan

Objective: Fibrous dysplasia (FD) is common fibro-osseous lesions and activating point mutation of the alpha subunit of the stimulatory G protein gene (GNAS) causes FD. For FD patients, main medical treatment is surgical resection. Design of new effective ways of pharmacologic intervention relies on appropriate FD animal model, however, to date there is no animal model suitable for reproduction of FD lesion.

Study Design: Here, we produced cell line with GNAS point mutation and transgenic mice expressing GNAS point mutation with osteoblast specific. We examined the feature of these cell line and transgenic mice.

Results: Cell line with GNAS point mutation showed the similar gene expression with FD patients and transgenic mice had bone morphological change compared to wild type mice.

Conclusions: These results suggest that cell line with GNAS point mutation and transgenic mice with osteoblast specific GNAS point mutation are a useful FD model for pharmacologic intervention.

Keywords: fibrous dysplasia, animal model, cell line, bone
A CASE OF AGGRESSIVE PSAMMOMATOID CEMENTO OSSIFYING FIBROMA WITH MASSIVE INVOLVEMENT OF THE MANDIBLE Mustafa Ataç1, Göktuğ Sına1, Ergün Yücel1, AlaaS M. Shiauir2, Benay Yıldırım2, 1Gazi University Faculty of Dentistry, Department of Oral and Maxillofacial Surgery; 2Gazi University Faculty of Dentistry, Department of Oral Pathology, Ankara, Turkey

Fibro-osseous lesions of the maxillofacial complex are often difficult to diagnose from both a clinical and a histopathologic point of view. Cemento Ossifying fibroma is a benign fibro-osseous lesion that arises from the periodontal membrane. These tumors occur in the third and fourth decades of life, with predilection for women. The mandible is more commonly involved than the maxilla. We report a case of aggressive psammomatomoid Cemento ossifying fibroma in the mandible that underwent hemi-mandibulectomy with reconstruction by reconstructive plate.

Keywords: ossifying fibroma, psammomatomoid, mandible

INTRATUMOUR MOLECULAR HETEROGENEITY OF SALIVARY GLAND PLEOMORPHIC ADENOMAS Carolina C. Gomes1, Clarice F. Galvão1, Marina G. Diniz2, Ricardo S. Gomez2, 1Department of Pathology, Institute of Biological Sciences, Universidade Federal de Minas Gerais, Belo Horizonte, Brazil; 2Department of Oral Surgery and Pathology, School of Dentistry, Universidade Federal de Minas Gerais, Belo Horizonte, Brazil

Objective: To investigate intratumour heterogeneity in pleomorphic adenomas (PA).

Study Design: Nine samples of PA of salivary glands were included in the study. Tumour DNA was extracted from a minimum of two different areas of each formalin fixed paraffin embedded (FFPE) sample. Different areas were at least 4 mm distance from one another. PCR followed by capillary electrophoresis was used to determine LOH in a panel of six microsatellite markers.

Results: Different LOH profiles were observed among different tumour areas in six of the nine PA samples.

Conclusions: Our findings suggest that there is an important intratumour molecular heterogeneity in salivary gland PA.

Support by: FAPEMIG (Fundaçao de Amparo à Pesquisa de Minas Gerais), CNPq (National Council for Scientific and Technological Development) and CAPES (Coordination for Improvement of Higher Education Personnel), Brazil.

Keywords: Tumour heterogeneity, LOH, pleomorphic adenoma, salivary gland tumour

RELATIONSHIP BETWEEN HELICOBACTER PYLORI AND SALIVARY GLAND NEOPLASMS Canan Külah1, Sibel Bektaş2, Ebru Taş3, Elif Aktaş1, Füsun Çömez1, Dilek Yavuz1, Nimet Karadayı1, Nusret Erdoğan2, Sükrü Özdamar2, 1Bulent Ecevit University, School of Medicine, Department of Microbiology; 2Taksim Training and Research Hospital, Department of Pathology; 3Bulent Ecevit University, School of Medicine, Department of Ear Nose and Throat; 4Lütfi Kirdar Kartal Training and Research Hospital, Department of Pathology; 5Bulent Ecevit University, School of Medicine, Department of Pathology, Turkey

Objective: The aim of this study was to detect the presence of H. pylori in the salivary gland neoplasms for investigating the possible role of H. pylori in the aetiology of salivary gland neoplasms.

Study Design: The histologic types of 50 neoplasms were as follows: pleomorphic adenoma (n: 28), Warthin’s tumor (n: 17), myoepithelial tumor (n: 1), adenoid cystic carcinoma (n: 2) and mucoepidermoid carcinoma (n: 2). For each patient, a representative block containing adequate neoplastic and non-neoplastic salivary gland tissue was selected and stained with tissue Giemsa for identification of H. Pylori microorganisms. All specimens were tested by Real Time PCR and commercial system.

Results: On histopathological and microbiologic evaluation, no H. Pylori microorganisms were revealed in neoplastic and non-neoplastic salivary gland tissues.

Conclusions: H. pylori was not detected in any specimen concluding no data supporting the possible role of H. pylori in the aetiology of salivary gland neoplasms.

Keywords: Helicobacter Pylori, Neoplasm, Salivary Gland

KERATOCYSTIC ODONTOGENIC TUMOR: A CASE REPORT Emin Murat Canger1, Duygu Göller Bulut1, Nikhêt Kütük2, Ömer Günhan3, 1Department of Oral And Maxillofacial Radiology, Dentistry Faculty, Erciyes University, Kayseri, Turkey; 2Department of Maxillofacial Surgery, Dentistry Faculty, Erciyes University, Kayseri, Turkey; 3Department of Pathology, Gülhane Military Medical Academy, Ankara, Turkey

Keratocystic odontogenic tumor (KCOT) was previously classified as an odontogenic cyst but in 2005 classified as an odontogenic neoplasm by World Health Organization (WHO). It has been defined as a benign developmental intraosseous tumor, originating from dental lamina or its residue. It can be unicystic or multicystic and has many distinguishing clinical and histologic features. It is characterized by aggressive, infiltrative behavior and has a high rate of recurrence. Clinically, KCOT is frequently involved in the mandibular posterior region. But is not common in the posterior maxilla. An 37-year-old male patient referred to our clinic with a complaint of painless swelling on his right mandibular molar region. The radiographic examination revealed multilocular radiolucent lesion with scalloped border extending from mesial side of mandibular right premolar tooth to coronid process. The histopathology examination of lesion was reported as keratocystic odontogenic tumor. Unfortunately the patient refused treatment.

Keywords: Keratocystic tumor, odontogenic keratocyst, odontogenic tumors, CBCT

HUGE MULTILUCULAR DENTIGEROUS CYST: A CASE REPORT Emre Köse1, Emin Murat Canger1, Osman Abdurrahman Etoğ1, Ahmet Emin Demirtaş2, Şerife Seçil Karabulut1, 1Department of Oral and Maxillofacial Radiology, Dentistry Faculty, Erciyes University, Kayseri, Turkey; 2Department of Oral and Maxillofacial Surgery, Dentistry Faculty, Erciyes University, Kayseri, Turkey; 3Department of
Nuclear expression of B-catenin in oral squamous cell carcinomas infected by HPV

**Objective:** To determine association between the presence of Human Papilloma Virus (HPV)-16/18 in Oral Squamous Cells Carcinoma (OSCC) and the b-catenin expression.

**Study Design:** Cross-sectional study. Fifty-six cases were selected from Pathology Anatomy Service, Dental School, University of Chile. The HPV-16/18 cases were detected through conventional Polymerase Chain Reaction (PCR). The Immunohistochemical technique was used for b-catenin detection. Mann-Whitney test was used.

**Results:** Fifty-six OSCC cases were included. Eleven cases were HPV-positive, being b-catenin mainly localized in nucleus and cytoplasm. In HPV-negative OSCC b-catenin was detected at the cell membrane and cytoplasm.

**Conclusions:** Association exists between the presence of HPV 16/18 in OSCC with nuclear b-catenin accumulation in HPV-positive OSCC. This seems to be a direct consequence of E6 and E7 HPV oncogene expression. β-catenin may be useful as a potential biomarker for distinguish HPV-positive versus HPV-negative OSCC.

**Keywords:** HPV, OSCC, b-catenin

**ORAL ADENOSQUAMOUS CARCINOMA MIMICKING A PYOGENIC GRANULOMA: A CHALLENGING DIAGNOSIS**

Ana Lia Anbinder, Celina Faig, Lima Carta, Renata Acay, Janete Dias Almeida, Yasmin Rodarte Carvalho, Department of Biosciences and Oral Diagnosis, Institute of Science and Technology, UNESP — Univ Estadual Paulista, São José dos Campos, Brazil

Adenosquamous carcinoma of the head and neck is considered a rare variant of squamous cell carcinoma; there are less than 100 cases reported in English literature. The aim of this case report is to describe a new case of adenosquamous carcinoma presenting classical clinical features of a benign lesion and discuss the differential diagnoses, especially regarding histopathological and immunohistochemical analyses. A 45-year-old male was referred to our clinic complaining about a rapid-growing enlargement in hard palate. Clinical examination revealed an erythematous and pedunculated nodule with lobulated non-ulcerated surface. Excisional biopsy was performed following clinical diagnosis of pyogenic granuloma. Histologically, the specimen consisted of areas characterizing both well-differentiated squamous cell carcinoma and true adenocarcinoma, as confirmed by immunohistochemical tests. The diagnosis of adenosquamous carcinoma was rendered and the patient referred to complementary surgery. No signs of recurrence were observed in fourteen months of follow-up.

**Keywords:** adenosquamous carcinoma, immunohistochemistry, squamous cell carcinoma

**HOXB7 EXPRESSION IN SALIVARY GLAND TUMORS:**

A Multi-Institutional Study

Pablo Agustín Vargas, Felipe Paiva Fonseca, Márcio Ayudarte Lopes, Oslei Paes Almeida, Fernanda Viviane Mariano, Luiz...
Keywords: Epithelial odontogenic ghost cell tumor

MULTIPLE CELL TYPES EXPRESS INTERLEUKIN 17 IN ORAL SQUAMOUS CELL CARCINOMA
Avadhoot Vinayak Avadhani, Alison Mary Rich, Praveen Parachuru, Trudy Milne, Gregory Seymour, Sir John Walsh Research Institute, Faculty of Dentistry, University of Otago, New Zealand

Objective: This study aimed to compare the expression of interleukin 17 (IL17) in oral squamous cell carcinoma (OSCC) and inflammatory controls and determine which types of cells expressed IL17.

Study Design: The presence of IL17 was determined by immunohistochemistry using IL17 antibody in formalin fixed paraffin embedded archival tissue samples of OSCC and inflammatory controls (n=14 each). The cells were counted using Image J software. Cells expressing IL17 were identified with double labeling immunofluorescence using antibodies against helper T cells (Th), cytotoxic T cells (Tc), macrophages and mast cells and IL17.

Results: There were significantly more IL17+ cells in OSCC compared with inflammatory tissues (Mann Whitney, p<0.05). In OSCC, positive cells were observed within the invading islands and in adjacent inflamed fibrous tissue. Th, Tc, macrophages and mast cells co-expressed IL17.

Conclusions: IL17 is expressed by multiple cell types in OSCC and its prominence in OSCC suggests a possible role in the pathogenesis of disease.

Keywords: IL17, OSCC, immunohistochemistry, prominence, multiple cells

SYNDROMIC (NBCCS) AND SPORADIC KERATOCYSTIC ODONTOGENIC TUMOUR: COMPARISON OF HISTOPATHOLOGICAL FEATURES IN CONFOCAL LASER SCANNING MICROSCOPY
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Objective: The aim of this study is to compare the histopathological features with the biological behaviour of syndromic and sporadic Keratocystic Odontogenic Tumours (KOT) using Confocal Laser Scanning Microscopy (CLSM).

Study Design: 113 patients were histologically diagnosed with 120 syndromic and 93 sporadic KOT in the University of Bari between 1979 and 2012. All histological slides were re-evaluated using Nikon Eclipse Ti600 microscope.

Results: Syndromic KOT in CLSM presented more numerous satellite cysts than sporadic lesions, and showed a basophilic layer in the basement membrane, absent in sporadic KOT. The basement membrane in syndromic KOT is amorphous and fragile determining the epithelial detachment and collapse with scalloped aspect. Furthermore basement layers present more cellular density with increased proliferative activity. All these features could be related to an higher recurrence tendency.
Conclusions: CLSM is a useful advanced technology that could help in the differentiation between syndromic and sporadic KOT, allowing the evaluation of their biological behaviour.

Keywords: Keratocystic Odontogenic Tumour, NBCCS, CLSM

SYNDROMIC (NBCCS) AND SPORADIC KERATOCYSTIC ODONTOGENIC TUMOUR: DIFFERENT RECURRENCE RATE AFTER CONSERVATIVE SURGERY OF 213 LESIONS

Simona Miccoli1, Simonetta Franco1, Matteo Favia1, Maria Grazia Lacuata1, Silvio Tafuri1, Nicola Lafortuna1, Gianfranco Favia1, 1Department of Odontostomatologic and Surgery, Aldo Moro University, Bari, Italy; 2Department of Emergency and Organ Transplantation, Aldo Moro University, Bari, Italy; 3Department of Biomedical Sciences and Human Oncology, Aldo Moro University, Bari, Italy

Objective: The purpose of this study is to evaluate the different recurrence rate after conservative surgery in 113 patients with 120 syndromic and 93 sporadic Keratocystic Odontogenic Tumours (KOT) treated between 1979 and 2012 at the University of Bari.

Study Design: Conservative surgery consisted of KOT enucleation followed by peripheral ostectomy with rotary or piezoelectric instruments. Chi-Squared-Test ($\chi^2$) was used to find an association between recurrence rate and syndromic or sporadic KOT using a 95% significance level (P < 0.05).

Results: 31 patients were affected by NBCCS (group1) and 82 patients presented sporadic lesions (group2). Out of group1, 12 patients had 26 recurrences (38.71%; n=12/31, whereas out of group2, 8 patients presented 11 recurrences (9.76%; n=8/82); ($\chi^2$=12.95; P = 0.0003).

Conclusions: Since syndromic patients usually present larger KOT and are more prone to continuous formation of new lesions, recurrence rate is significantly higher in group1; nevertheless recurrence rate in group2 is lower than data reported in literature for the same treatment modality.

Keywords: Keratocystic Odontogenic Tumour, NBCCS, Recurrence

BISPHOSPHONATE-RELATED OSTEONECROSIS OF THE JAW (BRONJ) IN NEOPLASTIC AND OSTEOPOROTIC PATIENTS: STATISTICAL ANALYSIS OF THE INFLUENCE OF PRIMARY DISEASE ON THE MULTIFOCALITY

Simonna Franco1, Irene Tempesata1, Maria Vittoria Lacuata1, Michele Lattarulo1, Silvio Tafuri1, Gianfranco Favia1, 1Department of Odontostomatologic and Surgery, Aldo Moro University, Bari, Italy; 2Department of Neuroscience, Aldo Moro University, Bari, Italy; 3Pharmaceutical Department, Aldo Moro University, Bari, Italy; 4Department of Biomedical Sciences and Human Oncology, Aldo Moro University, Bari, Italy

Objective: The aim of this work is to evaluate the influence of the primary disease on the multifocality of Bisphosphonate-Related Osteonecrosis of the Jaw (BRONJ).

Study Design: 203 patients with 266 lesions were surgically treated between 2004 and 2013 at the University of Bari. 42 received bisphosphonates for multiple myeloma, 58 for breast cancers, 45 for other tumours, and 58 for osteoporosis. To investigate the association between the primary disease and the multifocality of BRONJ, a multiple logistic regression model was used, estimating the odds ratio (OR) and the value of Z-test.

Results: Patients with osteoporosis showed the increase of multifocal lesions odds (OR=1.75; Z=11.3; P<0.0001).

Conclusions: The result could be related to the lower importance given to this primary disease by both patients and dentists. Patients usually don’t report the bisphosphonates assumption for osteoporosis, overlooking their adverse effects, and, on the other hand, dentists don’t pay attention to the medical history of the patient.

Keywords: BRONJ, bisphosphonates, osteoporosis, multifocality

ECTOMESENCHYMAL CHONDROMYXOID TUMOR OF THE HARD PALATE: CASE REPORT

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Ectomesenchymal chondromyxoid tumor (ECMT) is a rare benign intraoral tumor, typically involves the tongue. Herein we present a case in a 64-year-old female with a nodule in the hard palate. To the best of our knowledge there is only one ECMT case has been reported in hard palate localization in English literature.

Microscopic examination, the tumor appears as a polyoid, well circumscribed, lobular lesion. It is composed of lobular proliferation of spindle rounded and ovoid cells in chondromyxoid background. Immunohistochemistry revealed positivity of the neoplastic cells for Pancytokeratin SMA, Vimentin, GFAP. The diagnosis was consistent with ECMT. There has been no recurrence after 11 months follow-up. ECMT was initially described by Smith et al in 1995. The histogenesis of this tumor is hypothesized to be ectomesenchymal cell origin. In the histological differential diagnosis includes other myxoid, chondroid lesions such as myxoma, chondrosarcoma, pleomorphic adenoma, myoepithelioma.

Keywords: Ectomesenchymal Chondromyxoid Tumor, hard palate

PRIMARY ANEURYSMAL BONE CYST OF MANDIBLE: CASE REPORT

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Primary aneurysmal bone cyst (ABC) is a benign, locally aggressive and expansile tumor that typically occurs in long bones of children and young adults. Aneurysmal bone cyst originating from the mandible is quite rare. We describe a case of ABC in a 22 year old male patient affecting the body of the mandible.

Panoramic radiograph revealed two large unilocular radiolucency present in the body of mandible. Microscopically the lesion composed of blood-filled spaces separated by connective tissue septa containing fibroblasts, osteoclast-type giant cells. ABC comprises 1.9% of in jaws. ABC is variable presentation, ranging from a small, indolent, asymptomatic lesion to rapidly growing, expansile, destructive lesion. The etiology of ABC is unknown. A history of trauma and subperiosteal hematoma formation is an essential factor proposed in the development of ABC. ABC can occur as a secondary phenomenon in a pre-existing lesion.

Keywords: Aneurysmal Bone Cyst, Mandible

A COLLABORATIVE RETROSPECTIVE STUDY OF ODONTOGENIC TUMORS IN TWO CENTERS FROM SOUTHERN TURKEY

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Objective: The purpose of this study was to evaluate the distribution of different type of odontogenic tumors (OTs), including bone-related lesions from two referral centers in Southern Turkey.

Study Design: We analyzed the clinical records and radiographic reports of all patients histologically diagnosed as OTs (based on WHO histological classification, 2005) from Gaziantep University; Department of Oral and Maxillofacial Surgery, 2008-2013 and Department of Otolaryngology-Head and Neck Surgery, Gaziantep University, Gaziantep, Turkey, 1995-2013.

Results: We found a total of 99 OTs; of these, 89 (89.9%) were benign and 10 (10.1%) were malignant. The patients’ mean age was 35.4 years (ranging from 8-86 years), with a male to female ratio of 1:1. Central giant cell granuloma (22.2%) was the frequent type, followed by keratocystic odontogenic tumor (21.2%), primary intraosseous squamous cell carcinoma (10.1%).

Conclusions: We observed a geographic variation in the incidences of various odontogenic tumors, particularly notable predilection for malignant lesions compared with data from other countries.

Keywords: Odontogenic tumors, WHO classification, Retrospective study

EMA EXPRESSION AND DNA PLOIDY IN ORAL EPITHELIAL DYSPLASIA Belinda Kathleen Bunn, Willie Van Heerden, Department of Oral Pathology and Oral Biology, University of Pretoria, South Africa

Objective: To determine whether a relationship exists between EMA expression and DNA ploidy in various grades of oral epithelial dysplasia.

Study Design: Immunohistochemical staining for EMA as well as DNA ploidy analysis by means of high resolution image cytometry was performed on archival tissue sections diagnosed as mild (n=11), moderate (n=11) and severe dysplasia (n=13).

Results: The intensity and immuno-localisation of EMA correlates with histological grade and DNA ploidy. Basal cell and/or suprabasal positivity was noted more frequently in aneuploid lesions of a high-grade nature. Suprabasal cell positivity only, correlated with lower histological grade in lesions which were more frequently diploid.

Conclusions: The localisation, intensity and distribution of EMA staining correlates with histological grade and DNA ploidy. Both EMA expression and DNA ploidy analysis represent useful adjuncts to histological grading for determining the malignant potential of dysplastic oral epithelial lesions.

Keywords: EMA, DNA ploidy, oral epithelial dysplasia

LINGUAL DABSKA TUMOUR: STUDY AT CONFOCAL LASER SCANNING MICROSCOPE Luisa Limongelli1, Angela Tempera1, Francesco Pettini2, Salvatore Pisconti2, Umberto Romeo2, Eugenio Maiorano2, Gianfranco Favia1, 1Department of Odontostomatatology and Surgery, Aldo Moro University, Bari, Italy; 2Department of Medical Oncology, SS Annunziata e Giuseppe Moscati Hospital, Taranto, Italy

Objectives: To determine whether a relationship exists between EMA expression and DNA ploidy in oral epithelial dysplasia.

Study Design: Immunohistochemical staining for EMA as well as DNA ploidy analysis by means of high resolution image cytometry was performed on archival tissue sections diagnosed as mild (n=11), moderate (n=11) and severe dysplasia (n=13).

Results: The intensity and immuno-localisation of EMA correlates with histological grade and DNA ploidy. Basal cell and/or suprabasal positivity was noted more frequently in aneuploid lesions of a high-grade nature. Suprabasal cell positivity only, correlated with lower histological grade in lesions which were more frequently diploid.

Conclusions: The localisation, intensity and distribution of EMA staining correlates with histological grade and DNA ploidy. Both EMA expression and DNA ploidy analysis represent useful adjuncts to histological grading for determining the malignant potential of dysplastic oral epithelial lesions.

Keywords: EMA, DNA ploidy, oral epithelial dysplasia

Dabska tumour, or Papillary Intra-lymphatic Angioendothelioma (PILA), first described in 1969 by Dabska, is a rare vascular low grade malignancy that usually affects the skin and subcutaneous tissues of infants. We report a case of the right tongue in a 65 years-old female patient presenting as a white-bluish multinodular lesion, measuring 4x3 centimetres. After wide excision, histological examination was carried out with Confocal Laser Scanning Microscopy (CLSM). The histological features finding out during optical examination were: thin-walled vascular spaces resembling a cavernous lymphangioma, and the formation of prominent intraluminal papillary tufts with hyaline cores lined by hobnail endothelial cells. CLSM analysis highlighted muscle infiltration, and high fluorescence of intra-luminal papillary’s core due to the presence of young thin collagen fibres devoid of cross-links. Thus, a final diagnosis of PILA was made.

Keywords: Dabska tumour, Papillary intra-lymphatic angioendothelioma, CLSM

PRESENCE OF HPV AND EBV IN TONGUE SQUAMOUS LESIONS Kayhan Başak, Şükran Kayypmaz, Hanım Istem Köse, Nimet Karadayi, Department of Pathology, Dr. Lafı Kirdar Training and Research Hospital, Istanbul, Turkey

Objective: Several studies have suggested a possible role of human papillomavirus (HPV) in the pathogenesis of oral carcinoma and presence of HPV in oral premalignant lesions (OPL).

Study Design: This study aimed to investigate the correlation between squamous dysplasia of tongue (TSD) and expression of p16 and Ki67 immunohistochemically and HPV genotypes with realtime PCR.

Results: Twenty three tongue biopsies diagnosed as preneoplastic and suspicious lesions for dysplasia (n: 17) and HPV infection (n: 6) microscopically, have no invasive carcinoma. Chromogenic in-situ hybridization (CISH) for HPV DNA (HPV III family 16), realtime PCR for HPV, p16, anti-Epstein-Barr virus (EBV) and Ki67 immunohistochemical (IHC) studies were used for detection. There was no immureactivity for EBV. p16 positivity was found in 25% of dysplasia. Only one lesion was positive for HPV by CISH and no cases were positive by realtime PCR for HPV.

Conclusions: These evidence suggested that HPV infection, but not EBV, plays a role in pathogenesis of TSD.

Keywords: Tongue, squamous dysplasia, HPV, EBV, PCR

HUMAN PAPILLOMA VIRUS AND EPSTEIN-BARR VIRUS IN SINONASAL INVERTED PAPILLOMA Kayhan Başak, Şükran Kayypmaz, Hanım Istem Köse, Nimet Karadayi, Department of Pathology, Dr. Lafı Kirdar Training and Research Hospital, Istanbul, Turkey

Objective: Schneiderian papillomas are uncommon benign tumors of the sinonasal area. They tend to present local aggressiveness and recurrence, and some undergo malignant progression. This study aimed to search of human papillomavirus (HPV) and Epstein–Barr virus (EBV) in sinonasal inverted papilloma (IP) in order to elucidate possible role in its pathogenesis.

Study Design: Forty-eight IPs were subjected to chromogenic in-situ hybridization (CISH) for HPV DNA (HPV III family 16), Realtime PCR for HPV, p16, anti-EBV and Ki67 immunohistochemical (IHC) studies.

Results: p16 was positive in 30 of 48 (62.5%), CISH for HPV was positive in 1 of 48 IPs (2.1%). All specimens were EBV negative. In all, 33.3% of IPs showed suprabasal Ki67 reactivity.

By
Conclusions: HPV prevalence of our IP is high. EBV is not present in IP. This evidence suggested that HPV infection plays a role in pathogenesis of IP, but not EBV. Negative PCR results possibly depend on age of the paraffin blocks.

Keywords: Human papilloma virus, EBV, p16, inverted papilloma, PCR

HEPITHELIOID HAEAMANGIOENDOTHELIOMA OF THE JAWS: STUDY AT CONFOCAL LASER SCANNING MICROSCOPE OF 5 CASES Luisa Limongelli1, Angela Tempesta1, Matteo Favía1, Massimo Petruzzi1, Salvatore Pisconti1, Eugenio Maiorano2, Gianfranco Favia1, 1Department of Odontostomatology and Surgery, Aldo Moro University, Bari, Italy; 2School of Medicine, Aldo Moro University, Bari, Italy

Histopathological examination was carried out at Confocal Laser Scanning Microscope (CLSM). Standard examination showed strands, cords or solid nests composed by CD34-positive endothelial cells with epithelioid or histiocytoid aspects. CLSM analysis showed high fluorescence of endothelial cells with little or no mitotic activity, and lack of fluorescence in infiltration area, due to the resorption of bone collagen fibres. Thus, bone HHE was diagnosed. Although HHE has an high rate of recurrence, this one never had been noticed.

Keywords: Hepithelioid Haemangioendothelioma, multicentric osteolytic areas, CLSM

ORAL PYOGENIC GRANULOMA: HISTOMORPHOMETRICAL STUDY AT CONFOCAL LASER SCANNING MICROSCOPE (CLSM) IN 87 PATIENTS WITH REGARDS TO SURGICAL IMPLICATIONS Angela Tempesta1, Luisa Limongelli1, Matteo Favía1, Simona Miccoli1, Massimo Corsalini1, Daniela Di Venere1, Gianfranco Favia1, 1Department of Odontostomatology and Surgery, Aldo Moro University, Bari, Italy; 2School of Medicine, Aldo Moro University, Bari, Italy

Objective: This study was aimed at describing the correlations between the stages of Pyogenic Granuloma (PG), highlighted at Confocal Laser Scanning Microscope (CLSM), and the lesions age.

Study Design: Eighty-seven patients (52 females and 35 males) with PGs referred to Oral Surgery Unit of University of Bari. Thirty-three lesions occurred further six months, 54 less than six months. The tongue was the most commonly affected site. The histological and histomorphometrical examination was performed with CLSM, allowing both optical and confocal laser scanning analysis.

Results: CLSM analysis related the age of the lesions with the diameter of blood channels; we distinguished two stages of PGs: early stage (between 30-60µm) and late stage with enlarged capillary (>60µm).

Conclusions: Distinction of PGs stages is very important in order to choice different kind of treatment. Late stage PGs, due to the presence of enlarged capillary channels, could be threat with Diode Laser photoagulation and excision.

Keywords: Pyogenic Granuloma, CLSM, Diode Laser

ORAL INTRAVASCULAR PAPILLARY ENDOTHELIAL HYPERPLASIA (IPEH): ANALYSIS BY CONFOCAL LASER SCANNING MICROSCOPE IN TWO CASES Angela Tempesta1, Luisa Limongelli1, Vito Crinccoli1, Daniela Di Venere2, Salvatore Pisconti1, Gianfranco Favia1, 1Department of Odontostomatology and Surgery, Aldo Moro University, Bari, Italy; 2Department of Medical Oncology, SS Annunziata e Giuseppe Moscati Hospital, Taranto, Italy

Intravascular papillary endothelial hyperplasia (IPEH) was first described in 1923 as Masson’s tumour and is currently believed to be a relatively uncommon benign, non-neoplastic vascular lesion. We report two cases of IPEH occurred on the mouth floor in female patients, presenting as slightly elevated great lesions with oval form, firm consistency, and red-blush colour. FNA was performed and the surgical samples were fixed in formaline, stained with Haematoxylin-eosin and Picrosirius red, and analyzed at Confocal Laser Scanning Microscope (CLSM). The histological examination showed an exuberant intravascular endothelial proliferation comprising papillary formations and anastomosing cavernous-like vascular channels. CLSM highlighted a well-defined lesion consisting of cystic spaces with blood content rounded by elongated irregular papillae, and vascular connective stroma. Thus, diagnosis of IPEH was made. Achieving a correct diagnosis is essential to avoid subjecting a patient to unnecessarily aggressive therapy. We performed Diode Laser excision and patients had no evidence of recurrences.

Keywords: Intravascular Papillary Endothelial Hyperplasia, Mouth Floor, CLSM

GIANT OSSIFYING FIBROMA: A CASE REPORT Ayse Zeynep Zengin1, Perace Celenk2, Gokhan Kutlar2, Yuka Sancar Baris2, Omer Gunhan2, 1Department of Oral and Maxillofacial Radiology, Ondokuz Mayis University, Faculty of Dentistry, Samsun, Turkey; 2Department of Ear Nose and Throat, Ondokuz Mayis University, Faculty of Medicine, Samsun, Turkey

Ossifying fibroma (OF) is the most common benign fibroosseous neoplasm of maxillofacial region. OF tends to occur in the second and third decades of life, with predilection for women and for the mandibular premolar-molar area. Slow growth and lack of symptoms are the cardinal features. The method of treatment used for large or rapidly expanding lesions is surgical removal (enucleation). This report describes a case of giant OF of mandible diagnosed incidentally in a 22-year-old female with its radiologic and histopathologic findings. Panoramic radiograph showed a large, well defined, multilocular radiolucent lesion in the right mandible that extended from the right premolar area to the third molar area. The lesion demonstrates a characteristic downward bowing of the inferior cortex of the mandible. Computerized tomography revealed extensive hypodense lesion with cortical expansion with varying degrees of radiopacities. The
exact diagnosis of the lesion was made by histopathologic examination.

**Keywords:** Ossifying fibroma, Computed Tomography, Mandible

GLOMUS TUMOR OF NASAL CAVITY Yasin Sağlam1, Kayhan Başak2, Hanım İstem Kösö1, Yücel Kılıçkap2, Nimet Karadayı1,1 Department of Pathology, Dr. Lütfi Kirdar Kartal Research and Training Hospital, Istanbul, Turkey; 2Department of Otorhinolaryngology, Remedy Hospital, Istanbul, Turkey

Glomus tumor is a vascular tumor that originates from glomus body. It is typically seen in young adults and localized in distal extremities and nail beds. It often presents with stufness, rhinorrhea and pain. Glomus tumor is rare in the head and neck region. A 79 year-old male suffering from stiffness and ear congestion was presented with a 2.5 cm lesion in greatest diameter. On rhinoscopic examination, a mass located in the posterior of the nasal septum was observed. Macroscopically, the excisional biopsy of the mass had an irregular surface and hyperemia. Histopathological examination of the biopsy showed that the lesion consisted of vascular structures, which were surrounded by solid epithelioid, acidophilic and smooth muscle actin positive cells. The case was diagnosed as nasal glomus tumor.

**Keywords:** Glomus tumor, head and neck, nasal cavity

THE DIAGNOSTIC VALUE OF FINE NEEDLE ASPIRATION CYTOLOGY IN MINOR SALIVARY GLAND LESIONS Jamal Musayev, Department of Pathology, Azerbaijan Medical University, Baku, Azerbaijan

**Objective:** To evaluate fine-needle aspiration cytology (FNAC) for the diagnosis of minor salivary gland lesions (MSGL).  

**Study Design:** A total of 13 cases of MSGL, for which FNAC was carried out with histological follow-up, were reviewed retrospectively. Fine-needle aspiration and cytologic examination were performed by single cytopathologist with rapid onsite adequacy assessment of aspiration samples.  

**Results:** We detected 3 true-positive, 9 true-negative and 1 false-positive results. There were no false negatives. The calculated sensitivity, specificity and accuracy of FNAC were 100%, 90% and 92.3%, respectively. Cytologic diagnosis of false-positive case was low-grade mucoepidermoid carcinoma and histopathologic diagnosis was pleomorphic adenoma. Cellularity, degeneration in some cells and mucoid background were main pitfalls in smears.  

**Conclusions:** FNAC not preferred method in the diagnostic process of intraoral masses because their accessibility and easiness of incision and excision. According to our results, we think that the widespread use of FNAC as an initial diagnostic method in MSGL is necessary.

**Keywords:** Minor salivary glands, tumor, diagnosis, fine needle aspiration cytology

UNUSUAL PRESENTATION OF AN ADENO-CARCINOMA OF LUNG METASTASIZING TO MANDIBLE: WITH THE EVIDENCE OF MOLECULAR ANALYSIS Burcu Sengüven1, S. Elif Gültekin1, İpek Işık Gönül2, Reinhard Buttnner3, Begüm Okar4, 3Department of Oral Pathology, Faculty of Dentistry, Gazi University, Ankara, Turkey; 4Department of Pathology, Faculty of Medicine, Gazi University, Ankara, Turkey

Metastatic tumors to the oral region are not common. The most common primary sources are the breast, lung, and kidney. Here we report a metastasis of molecularly proved adenocarcinoma of lung to mandible in a 69 years old man. The patient reached to our clinic with his history and the previous pathology report of “non-small cell carcinoma of lung”, an excisional biopsy was performed from the lobulated, dark colored, fragile lesion at retromolar area with the prediagnosis of “metastatic tumor”. Tumor infiltration was observed in H&E sections underneath the oral mucosa. The tumor cells were small in size, had limited cytoplasm, and hyperchromatic nucleus. Numerous mitotic figures were seen. On immunohistochemical staining neuro-markers and TTF-1 were positive, cytokeratin 7 was diffuse positive. Morphologically no distinctive adenoid or squamous differentiation was observed. According to the NGS results TP53 gene (exon 4-8) was mutated which was specific to adenocarcinoma of lung.

**Keywords:** Adenocarcinoma, Metastasis, Next Generation Sequencing

A GIANT SUBMANDIBULAR SIALOLITHIASIS THAT OPENED TO THE FLOOR OF THE MOUTH SPONTANEOUSLY IN A 63-YEAR-OLD MAN: CASE REPORT Alper Nabi Erkan1, Tuba Canpolat2, 1Department of Otorhinolaryngology, Baskent University, Adana, Turkey; 2Department of Pathology, Baskent University, Adana, Turkey

Sialolithiasis is one of the most common diseases of the salivary glands. Submandibular gland is the most effected gland in the salivary glands from this disease. A 63-year-old man presented to our clinic with complaints of left submandibular pain and swelling and pain in the left floor of the mouth. Clinical examination revealed left submandibular swelling and a large, yellowish sialolith which was opened spontaneously to the left, posterior floor of the mouth. Computed tomography scans showed a sialolith with a diameter of 24×16×21 mm located within the left submandibular region. Submandibular gland excision and removal of the sialolith were performed. Histopathologic examination was resulted as chronic sialoadenitis and salivary stone. A case of an unusually giant submandibular gland sialolith which is perforating floor of the mouth in a patient 63 years old is presented, along with a review of the management of salivary gland calculi.

**Keywords:** sialolithiasis, submandibular gland, mouth floor

A GIANT LATERAL THYROGLOSSAL DUCT CYST IN A 85-YEAR-OLD MAN: CASE REPORT Alper Nabi Erkan1, Tuba Canpolat2, 1Department of Otorhinolaryngology, Baskent University, Adana, Turkey; 2Department of Pathology, Baskent University, Adana, Turkey

Thyroglossal duct cyst is one of the most commonly seen congenital neck mass. 85% of this cyst is seen in the middle of the neck. A 75-year-old man presented to our clinic with complaints of neck swelling which has been for 40 years. Clinical examination revealed a soft, smooth swelling in the left side of the neck which deviated the larynx to the right. Computed tomography scans showed a lobulated mass with a diameter of 6.5×4.5 cm in the left side of the neck. The mass was excised totally with the corpus of hyoid bone. Histopathologic examination was reported as thyroglossal duct cyst. A case of an unusually giant, lateral
thyroglossal duct cyst in a 75 year-old patient is presented. Although thyroglossal duct cyst is a benign cyst, we should consider that the risk of malignant degeneration may increase with age.

Keywords: A Giant thyroglossal duct cyst, old man

THE PROGNOSTIC EFFECTS OF P16 AND HPV EXPRESSIONS IN OROPHARYNGEAL SQUAMOUS CELL CARCINOMAS

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Objective: This study aims to prognostic significance of p16 and the relationship between p16 and HPV in patients with Oropharyngeal Squamous Cell Carcinoma (OPSCC).

Study Design: A total of 40 of OPSCC’s diagnosed during 5 years randomly selected and follow-up was obtained. Immunohistochemically (IHC) p16 and HPV was performed. Futures of tumor and HPV and p16 status was analyzed as statistically.

Results: 77.5% of cases were localized in tongue. 9 patients were died due to tumor. HPV staining was weakly positive in 11 cases, p16 is positive in 22 cases. The median survival was 55.5 months. Statistically meaningful relation was detected between p16 positivity and median survival (p<0.02).

Conclusions: p16 expression showed a better overall survival in OPSCC patients similar to the previous literature. However, we couldn’t find any relation between HPV and p16 expression. We suggest that IHC is a limited method for detect to HPV positivity and more sensitive procedure can be perform.

Keywords: HPV, p16, Squamous Cell Carcinoma

CHARACTERIZATION OF CARRIER INDIVIDUALS OF SYNDROME OF AMELOGENESIS IMPERFECTA AND NEPHROCALCINOSIS

Anna Catharina Vieira Armond, Maurício Da Rocha Dourado, Cássio Roberto Rocha Dos Santos, Ricardo Della Colleta, Ana Terezinha Marques Mesquita, Federal University of Jequitinhonha and Mucuri Valleys - UFVJM - Oral Pathology Laboratory/Dentistry Department- Diamantina, Brazil; 2State University of Campinas - UNICAMP - Molecular Biology Laboratory/ Oral Diagnosis Department- Piracicaba, Brazil

Objective: Syndrome of amelogenesis imperfecta and nephrocalcinosis, is a rare autosomal recessive disorder caused by mutations in FAM20A gene. It is characterized by malformation of enamel, tooth eruption failure and renal calcifications. The study search to identify the main characteristics of the syndrome and establish diagnostic protocol.

Study Design: Eleven patients from five family groups in Minas Gerais, Brazil, were evaluated. They were submitted to clinical and radiographic exam and renal ultrasonography.

Results: The heredograms of families revealed consanguinity in most of cases. The clinical characteristics were amelogenesis imperfecta, microdonta, anodontia, prolonged retention of deciduous, malocclusion and gingival hyperplasia. Radiographs showed impacted permanent teeth with dental follicle hyperplasia, pulpal calcifications and absence of definition between radiopacity of enamel and dentin. Renal ultrasonography showed hypeechoic areas in the corticomedullary region.

Conclusions: Patients diagnosed with amelogenesis imperfecta should be referred for nephrology research and the opposite is necessary for the possibility of coexistence of these changes.

Keywords: Syndrome of amelogenesis imperfecta and nephrocalcinosis, Consanguinity, Pulpal calcification, Anodontia, Microdonta, Hypeechoic areas

PERIPHERAL DENTINODGENIC GHOST CELL TUMOUR: A CASE REPORT

Firstine Kelsi Hartanto, Lau Shin Hin, 1Department of Oral Maxillo-Facial Surgical and Medical Sciences, Faculty Of Dentistry University Of Malaya, Kuala Lumpur, Malaysia; 2Stomatology Unit, Institute for Medical Research, Kuala Lumpur, Malaysia

Dentinogenic ghost cell tumour (DGCT) is a rare neoplasm. It accounts for about 1.9% to 2.1% of all odontogenic tumours. There are only a few cases of DGCT which have presented in extraosseous sites. A rare case of peripheral DGCT is reported in anterior maxillary gingiva of 62 year old female. The lesion presented as swelling with occasional bleeding and pain. The lesion was initially thought to be a pyogenic granuloma and was totally excised. Histopathological examination showed sheets of dentinoid material, ameloblastomatous islands with occasional ghost cell keratinization within fibrous connective tissue. It was finally diagnosed as a peripheral dentinogenic ghost cell tumour.

Keywords: dentinogenic ghost cell tumour, dentinoid material, ameloblastomatous islands

SALIVARY GLAND TUMORS: A 14-YEAR RETROSPECTIVE STUDY IN A TAIWAN POPULATION

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Objective: The aim of this study was to evaluate the clinicopathological characteristics of salivary gland tumors (SGT) in the oral pathologic department of a medical center in Southern Taiwan.

Study Design: A total of 135 cases of SGT (74 male and 61 female, mean age of 49.76) were retrospectively reviewed between 2000 and 2013.

Results: There were 43 major salivary gland tumors with 5 malignancies in the series, 86 cases were benign (63.7%). The most common SGT was pleomorphic adenoma (61 cases, 45.19%), followed by mucoepidermoid carcinoma, adenoid cystic carcinomas and Warthin’s tumors, 46 cases located over palate (34.07%), 26.67% at parotid gland, and 11.11% at buccal mucosa. All the SGT over sublingual, intraosseous, mouth floor, gingival, edentulous ridge were malignant.

Conclusions: The result emphasized the high malignant rate of oral SGT. All of tumor-like lesions of minor SG should be biopsied as soon as possible.

Keywords: salivary gland disease, head and neck tumors, epidemiology, pathology

ROLE OF VEGF-FLT-1 SIGNALING IN ORAL CANCER PROGRESSION

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Objective: Vascular endothelial growth factor (VEGF)-mediated angiogenesis plays a critical role in tumour growth and
**DNA METHYLATION IN ORAL MUCOSA OF CHRONIC SMOKERS** Celina Faig Lima¹, Mônica Ghislaine Oliveira Alves¹, Fábio Daumas Nunes¹, Jaqueline Scholz Issa², Márcia Sampaio Campos³, Patricia Pimentel Barros¹, Antonio Olavo Cardoso Jorge¹, Janete Dias Almeida¹, ¹Institute of Science and Technology, UNESP — Univ Estadual Paulista, São José dos Campos (SP), School of Dentistry, Department of Biosciences and Oral Diagnosis, Brazil; ²Department of Oral and Maxillofacial Pathobiology, Hiroshima University Hospital, Hiroshima, Japan; ³Center of Oral Clinical Examination, Hiroshima University Hospital, Hiroshima, Japan

**Study Design:** Smears were collected from the lateral border of the tongue of 16 male smokers, who smoked more than 20 cigarettes/day/10 years. They had no history of malignant neoplasm or mucosa alterations at the evaluated site. The DNA from samples was evaluated for methylation percentage of 22 repair genes by the DNA Methylation PCR Array System.

**Results:** Methylation levels in the majority of the genes was between 1-10%. The highest methylation percentage was observed in 3 cases of MLH3 and XRCC1 (11-20% of methylation), 01 case of MRE11A and PMS2 (>50% of methylation).

**Conclusions:** Chronic smokers evaluated in this research showed low levels of DNA methylation of studied genes.

**Keywords:** cytodiagnosis, methylation, gene repair, smoking, oral mucosa, carcinogenesis

**THE SENSITIVITY TO PHOTODYNAMIC THERAPY IS MODULATED BY APOPTOSIS-RELATED miRNAS IN HUMAN ORAL SQUAMOUS CELL CARCINOMA** Sook Moon¹, Jung Yoon Bae², Jin Kim², ¹Department of Oral Pathology BK 21 PLUS Project, Yonsei University College of Dentistry, Seoul, Korea; ²Oral Cancer Research Institute Yonsei University College of Dentistry, Seoul, Korea

**Objective:** In previous study, we found that RUNX3, a molecular biomarker confers sensitivity to PDT in OSCC. miRNAs regulate key biological processes and their aberrant expression may lead to cancer, we investigated certain miRNAs that might play crucial roles in conferring sensitivity to PDT by targeting RUNX3.
Study Design: miRNAs was assessed by microRNA-arrays based on quantitative-PCR analysis. Candidate-miRNAs that bind RUNX3 were identified using web-based bioinformatics-algorithms.

Results: 13% of the miRNAs was downregulated, and 17% of the miRNAs was upregulated after PDT in OSCC. Five candidate-miRNAs were selected: miR-17, miR-93, miR-145, miR-194, and miR-301. Particularly, miR-145 showed the largest downregulation, while miR-194 was upregulated.

Conclusions: This was the first study to identify miRNAs that target RUNX3 to enhance PDT effects in OSCC. These results should be further confirmed by showing that miR-145 and miR-194 directly interact with RUNX3.


Keywords: photodynamic therapy, RUNX3, miRNAs, OSCC

FINE NEEDLE ASPIRATION CYTOMETRY AND HISTOPATHOLOGICAL EVALUATION IN SALIVARY GLAND Havva Erdem1, Havva Erdem1, Nilüfer Kadoğlu1, Hasan Reza Aydin1, Feyza Başar1, Anzel Bahadırm, Murat Oktay4, Abdullah Belada2, Hilal Baltalı3, 1Department of Pathology, Duzce University of Medical Faculty, Duzce, Turkey; 2Department of Urology, Samsun Training and Research Hospital, Samsun, Turkey; 3Department of Biophysics, Duzce University of Medical Faculty, Duzce, Turkey; 4Department of Otorhinolaryngology, Duzce University of Medical Faculty, Duzce, Turkey; 5Department of Clinical Microbiology and Infectious Diseases, Duzce University of Medical Faculty, Duzce, Turkey; 6Department of Pathology, Anadolu University of Medical Faculty, Erzurum, Turkey; 7Department of Pathology, Training And Research Hospital Erzurum, Turkey

Objective: C-erbB-2 gene are involved in the molecular mechanisms of proliferation, activation, survival, differentiation, migration, and neoplastic transformation of these cells. Recent studies have suggested the possible roles of C-erbB-2 in the pathologic processes of inflammatory disease in the upper and lower airways.

Study Design: This study was conducted on a total of 57 paraffin-embedded nasal polyp samples. The expressions of C-erbB-2 were examined by immunohistochemistry.

Results: There was significant and positive linear relationship between inflammation severity and glandular staining severity. (p=0.002). There was significant and positive linear relationship between inflammation severity and surface epithelial staining severity (p<0.0001). Also there was significant and positive linear relationship between glandular staining severity and surface epithelial staining severity (p<0.0001).

Conclusions: In this study we found that erb-2 staining severity was correlated with inflammation. Both of surface epithelium and epithelium of gland were stained.

Keywords: Nasal polyp, C-erbB-2, inflammation

ACINIC CELL CARCINOMA OF THE PAROTID GLAND, FINE NEEDLE ASPIRATION CYTOMETRY FINDINGS Michisato Okudera1, Naoyuki Matsamoto1, Yasutoshi Matsue1, Takashi Yamamura1, Taichi Kitano1, Daisuke Omagari2, Masatake Asano1, Kazuo Komiyama1, Department of Pathology, Nihon University School of Dentistry, Kanda-Surugadai, Chiyoda-ku, Tokyo

Acinic cell carcinoma is relatively uncommon salivary gland tumor with low-grade malignancy. The tumor possess characteristic cytological findings, however, differential diagnosis is difficult in certain cases. We present a case of acinic cell carcinoma of parotid gland. The patient is a 74-year-old Japanese female. She had noticed cheek swelling during 10 years. Fine needle aspiration cytology was conducted. The smears contained a hemorrhagic back ground with epithelial component. Sheet and cluster of epithelial components are composed of cells with abundant granular cytoplasm. The nuclei were centrally located. In Giemsa stain, the cells had cytoplasmic small vacuoles. PAS positive small granules were identified. The cytologic features of malignancy were minimal. The tumor is considered as acinic cell carcinoma. There after, the tumor was completely resected. Histologically, the tumor was diagnosed as acinic cell carcinoma with solid and micro- cystic growth pattern.

Keywords: Salivary gland, Acinic cell carcinoma, Cytology

C-erbB-2 EXPRESSION OF HEAD AND NECK SQUAMOUS CELL CARCINOMAS Havva Erdem1, Feyza Başar1, Nilüfer Kadoğlu1, Anzel Bahadırm, Murat Oktay4, Ali İhsan Güler2, Nisa Ünlü2, Ebru Şener2, 1Department of Pathology, Duzce University of Medical Faculty, Duzce, Turkey; 2Department of Biophysics, Duzce University of Medical Faculty, Duzce, Turkey; 3Department of Dermatology Duzce University of Medical Faculty, Duzce, Turkey; 4Department of Pathology, Training And Research Hospital Erzurum, Turkey

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Conclusions: In this study we found that erb-2 staining severity was correlated with inflammation. Both of surface epithelium and epithelium of gland were stained.

Keywords: Nasal polyp, C-erbB-2, inflammation

ACINIC CELL CARCINOMA OF THE PAROTID GLAND, FINE NEEDLE ASPIRATION CYTOMETRY FINDINGS Michisato Okudera1, Naoyuki Matsamoto1, Yasutoshi Matsue1, Takashi Yamamura1, Taichi Kitano1, Daisuke Omagari2, Masatake Asano1, Kazuo Komiyama1, Department of Pathology, Nihon University School of Dentistry, Kanda-Surugadai, Chiyoda-ku, Tokyo

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Keywords: Salivary gland, Acinic cell carcinoma, Cytology

C-erbB-2 EXPRESSION OF HEAD AND NECK SQUAMOUS CELL CARCINOMAS Havva Erdem1, Feyza Başar1, Nilüfer Kadoğlu1, Anzel Bahadırm, Murat Oktay4, Ali İhsan Güler2, Nisa Ünlü2, Ebru Şener2, 1Department of Pathology, Duzce University of Medical Faculty, Duzce, Turkey; 2Department of Biophysics, Duzce University of Medical Faculty, Duzce, Turkey; 3Department of Dermatology Duzce University of Medical Faculty, Duzce, Turkey; 4Department of Pathology, Training And Research Hospital Erzurum, Turkey

Objective: C-erbB-2 expressions are involved in the molecular mechanisms of proliferation, activation, survival, differentiation, migration, and neoplastic transformation of these cells. Recent studies have suggested the possible roles of C-erbB-2 in the pathologic processes of inflammatory disease in the upper and lower airways.

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Conclusions: In this study we found that erb-2 staining severity was correlated with inflammation. Both of surface epithelium and epithelium of gland were stained.

Keywords: Nasal polyp, C-erbB-2, inflammation
Objective: C-erbB-2 expression has been detected in 40 to 60% of head and neck squamous cell carcinomas (HNSCC). With regard to preneoplastic lesions, thus suggesting that the loss of C-erbB-2 expression is a carcinogenic molecular event.

Study Design: This study was conducted on a total of 20 paraffin-embedded HNSCC samples, which were histopathologically diagnosed at the Department of Pathology of medicine Hospital between 2010 and 2011. Paraffin-embedded HNSCC samples 3 μm in thickness, were then cut. The slides were stained with C-erbB-2.

Results: There was significant relationship between staining density and differentiation grade (R = 0.922671).

Conclusions: Consequently, it was concluded that cerbB-2 is a poor prognostic factor in HNSCC like in breast tumour.

Keywords: Head and neck squamous cell carcinomas, C-erbB-2, prognostic parameter.

AN OVERVIEW OF CHOLESTEATOMAS

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Objective: At the present time, despite numerous investigations, the physiopathology of Cholesteatoma (CH) has still not been elucidated. Childhood CH has long been known to be more aggressive than the adult form, with poorer clinical prognosis.

Study Design: In this study we show age ranges and gender differences of patients who diagnosed as ch in our department.

Results: 123 cases (62 male, 61 female) were included in the study. Age range was 10 years to 60 years. The most common age group was 11-20 years (%25). Commonly male were below 20 years and female were above 20 years.

Conclusions: Consequently CH is more common and aggressive in childhood, however it may be common in adults in different regions and may show different clinical symptoms and female patients may be equal to male patients. Usually they can be cured with surgery. CH samples are common in pathology laboratories.

Keywords: Cholesteatoma, Childhood, adult, gender

CYTOLOGICAL EVALUATION OF TONGUE CELLS AND BUCCAL MUCOSA CELLS

Haeva Erdem¹, Leyla Yılmaz Aydın², Nilüfer Kadıoğlu¹, Cem Şahiner³, Feysa Başar¹, Anzel Bahadır³, Murat Oktay¹, Eşre Göleç Balbay³.
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Objective: In this study we aimed to reveal whether there is a change between tongue and buccal mucosa in cytological evaluation of oral mucosa which is exposed to several environmental irritation factors.

Study Design: 40 volunteers included in the study. These volunteers had several irritation factors such as cigarette, alcohol, hot-cold contact from time to time. Epithelial cells were obtained from buccal mucosa and tongue with the help of a brush. Samples were stained with Papanicolaou method. The most 20 largest cells were chosen. Nucleus and cytoplasm diameters were measured with morphotmetrical method.

Results: Nucleus/cytoplasm rates of tongue and buccal mucosa smear samples were calculated in each patient. Statistically there were not significant relationship between two groups. (p=0.874).

Conclusions: Consequently we concluded that there were not any changes related to location of oral mucosal epithelial cells. Further studies may show detailed information.

Keywords: Tongue, buccal mucosa, nucleus/cytoplasm rates

MR IMAGING OF A HUGE VASCULAR MALFORMATION: A CASE REPORT

Yeşim Deniz, Ayşe Zeynep Zengin, Gediz Gedik, Department of Oral and Maxillofacial Radiology, Ondokuz Mayıs University, Samsun, Turkey

Oral and maxillofacial vascular malformations are congenital lesions with various clinical characteristics and symptoms. Vascular malformations are present at birth and persist throughout life. The incidence of venous malformations is approximately 1:5,000-10,000; 40% of them occur in the head and neck regions. The treatment of arteriovenous malformations is more challenging and also depends on the size of the lesion, location and associated complications of the lesion and degree of involvement of vital structures. This article reports MR imaging of a large vascular malformation at tongue, floor of mouth, musculus pterygoideus lateralis and left mandibula corpus anterior, which completely fill left velula.

Keywords: vascular malformation, MR imaging, hemangioma

A STUDY OF ORAL MANIFESTATIONS AND XEROSTOMIA BETWEEN HIV SEROPosITIVE PATIENTS WHO ARE ON ART THERAPY AND ART NAIVE SUBJECtS IN SOUTHERN INDIA

Balasundaram Saranathan¹, Gunaseelan Rajan¹, Ranganathan Kannan², Umadevi K. Rao², ¹Chennai Dental Research Foundation; ²Ragas Dental College and Hospital, Chennai, India

Objective: To study the Oral lesions, presence of Xerostomia in HIV seropositive patients on ART and ART naïve.

Study Design: Two hundred patients attending Ragas-YRG Care were examined Xerostomia Questionnaire (XQ) recorded. Salivary flow rate (SFR) measured and analysed. The data was entered and analysed in SPSS 16.0.

Results: Common Oral lesions in ART and ART naïve are Gingivitis (82.8% & 98.9%), followed by Oral candidiasis (20.6% & 8.0%) and pigmentation (4.5% & 1.1%) respectively. The mean CD4 in ART patients were 518 (+ 178.79) and ART naïve 337 (+ 246.69). The XQ and the SFR showed presence of dryness and altered taste sensation in patients with ART.

Conclusions: Oral lesions and dry mouth showed significant difference in the two groups.

Keywords: Salivary flow rate, Oral manifestations, Xerostomia

OROFACIAL GRANULOMATOSIS: A CASE REPORT

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Objective: Oropharyngeal granulomatosis is a rare entity and is thought to be a variant of multiple granulomatoses. It is usually caused by Mycobacterium avium complex, Histoplasma capsulatum, or Candida albicans. We present a case of oropharyngeal granulomatosis due to Mycobacterium avium complex in a 37-year-old male patient. The patient presented with a 2-month history of left posterior pharyngeal wall swelling and difficulty in swallowing.

Study Design: The patient was a 37-year-old male who presented with a 2-month history of left posterior pharyngeal wall swelling and difficulty in swallowing.

Results: The patient was a 37-year-old male who presented with a 2-month history of left posterior pharyngeal wall swelling and difficulty in swallowing. On examination, a firm, painless, nontender mass was noted in the left posterior pharyngeal wall. The mass was biopsied, and histopathological examination revealed granulomatous inflammation with multinucleated giant cells and Langhans' type giant cells.

Conclusions: The patient was managed with broad-spectrum antibiotics and antitubercular therapy. The mass resolved completely after 3 months of treatment.

Keywords: Oropharyngeal granulomatosis, Mycobacterium avium complex, Peripharyngeal swelling
Orofacial granulomatosis is an uncommon disease which included conditions characterized by non-necrotizing granulomatous inflammation of the oral and maxillofacial region that persistent or recurrent soft tissue enlargement, perioral and/or mucosal swelling, oral ulcerations, variety of orofacial features and gingivitis. Orofacial granulomatosis may be associated with systemic conditions such as intestinal Crohn’s disease, sarcoidosis, tuberculosis, or the Melkersson-Rosenthal syndrome.

Although various etiological factors such as genetic predisposition, food substances, food preservatives, dental materials and microbiological agents were reported, the pathogenesis of orofacial granulomatosis is still unknown. A 65-year-old female was admitted to our clinic with a swelling in her right lower lip, right cheek and floor of the mouth. The patient described the swelling as permanent and pronounced for about 2 years which occurred after an implant surgery.

**Keywords:** Orofacial granulomatosis, Crohn’s, Melkersson-Rosenthal syndrome

**ANGIOGENIC FACTORS IN ORAL SQUAMOUS CELL CARCINOMA**

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**Objective:** To investigate the expression of vascular endothelial growth factor (VEGF)-A, VEGF receptor-2, CD34, CD146 (endothelial cell markers) and vasohibin-1, an intrinsic angiogenesis inhibitor, in hyperplastic vascular oral lesions and oral squamous cell carcinoma (OSCC).

**Study Design:** Archival formalin fixed paraffin embedded tissue (5 normal oral mucosa, 10 pyogenic granulomas and 10 cases of OSCC) were analysed using immunohistochemistry for these angiogenic markers and evaluated by light microscopy. CD34, CD146, VEGF-R2 and vasohibin-1 were counted as positive cells per field and VEGF as percentage of staining, at 200x magnification. Student t-test with a 5% level of significance was used to analyse differences between the three groups.

**Results:** Positive staining for the angiogenic markers was seen in all three groups. Preliminary results show significantly greater VEGF expression in OSCC by comparison with pyogenic granulomas.

**Conclusions:** Further analysis will allow comparison of the expression of the other angiogenic factors and determine their significance in angiogenesis in OSCC.

**Keywords:** oral squamous cell carcinoma, angiogenesis, VEGF, vasohibin

**AN EXTREME CASE OF BROWN TUMOR AFFECTING BOTH JAWS**

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Brown tumors are focal bone lesions caused by an increased osteoclastic activity and fibroblastic proliferation within hyperparathyroidism. They are named after their typical brown hemorrhagic stroma with its also typical giant cell formations. In this case report we describe a patient with a history of renal stone operated four times and osteolytic bone lesions affecting both jaws in all four segments. Patients face was asymmetric due to the extent of the tumor on the left maxilla. Biopsy of the left mandible revealed giant cell tumor and presumed differential diagnosis included Brown tumor. PTH level was 1565 pg/ml and calcium level was 20 mg/ml. After a detailed examination in endocrine clinics, patient was undergone parathyroidectomy operation. Even in the third month after surgery, bony lesions were regressed and facial asymmetry was unremarkable. Patients with bony lesions should not be operated for giant cell tumor, hyperparathyroidism must be considered as differential diagnosis.

**Keywords:** brown tumor, hyperparathyroidism, jaws, bony lesions

**A CASE OF DEDIFFERENTIATED ADENOID CYSTIC CARCINOMA IN SUBMANDIBULAR GLAND:**

MORPHOLOGICAL AND IMMUNOHISTOCHEMICAL FEATURES

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A new concept of dedifferentiated adenoid cystic carcinoma (d-ACC) has recently been introduced. The d-ACC worsens the prognosis and has higher incidence of metastasis than adenoid cystic carcinoma (ACC). We have experienced a case of d-ACC transformed from ACC. A 40-year-old man developed tumor of the submandibular gland and underwent a surgery. Histologically, the tumor was composed of three distinct components; the cribriform and the solid patterns of a low-grade ACC, and the d-ACC of high-grade adenocarcinoma. Immunohistochemically, all three components were positive for CAM5.2 The proportion of p53 and Ki-67-positive tumor cells was higher in d-ACC than in other two components. The expressions of Ki-67 and p53 are useful markers to identify d-ACC. After surgery, the patient underwent chemoradiotherapy for three months. No sign of tumor recurrence has been evident for 6 months after surgery.

**Keywords:** Dedifferentiated adenoid cystic carcinoma, Adenoid cystic carcinoma, Submandibular gland

**ABNORMAL CRANIAL BASE SYNCHONDROSIS DEVELOPMENT AND GROWTH IN CARTILAGE CALCIFICATION IN SUFFICIENT RAT**

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**Objective:** The cranial base synchondroses are essential for anterior-posterior elongation. We created a cartilage calcification insufficient (CCI) rat showing spontaneous skeletal dwarfism associated with abnormal endochondral ossification. We focused on their morphological characteristics of the cranial base synchondrosis and compared to the normal SD rat.

**Study Design:** After 2 to 4 weeks of birth, rats were sacrificed and extracted total RNA from knee joints, or fixed heads in 10% buffered formalin. Samples were analyzed by real time PCR or micro CT and histological procedures.

**Results:** The CCI rat showed abnormal synchondrosis including longitudinally wider length of the intra-sphenoidal synchondrosis (IS) and sphenoidossiptal synchondrosis (SO) compared to the normal SD rat. Histologically, the resting and
proliferating zone chondrocytes of both synchondrosis cartilage tissue in CCI rats were wide and disorganized.

Conclusions: The data demonstrate that CCI rats show cranial base synchondrosis disorder associated with the arrest or delay of the endochondral ossification.

Keywords: cartilage tissue, cranial base synchondrosis, endochondral ossification

ABNORMAL CRANIAL BASE SYNCHONDROSIS DEVELOPMENT AND GROWTH IN CARTILAGE CALCIFICATION INSUFFICIENT RAT Aya Takeuchi1, Motohiko Nagayama2, Michiko Ehara2, Junichi Tanuma2, Noriyuki Kitai1, 1Department of Orthodontics, Asahi University School of Dentistry, Gifu, Japan; 2Department of Oral Pathology, Asahi University School of Dentistry, Gifu, Japan

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Keywords: cartilage tissue, cranial base synchondrosis, endochondral ossification

DIAGNOSTIC ACCURACY OF PREOPERATIVE FNAC IN SALIVARY GLAND LESIONS Dilek Ece, Seving Hallaç Keser, Ayşegül Selek, Kayhan Başak, Nimet Karadağ, Department of Pathology, Dr. Lutfi Kirdar Training and Research Hospital, Istanbul, Turkey

Objective: The aim of this study evaluation of diagnostic accuracy of preoperative FNAC in salivary gland lesions.

Study Design: This study included 87 fine needle aspiration cytology of salivary gland from 86 patients who underwent preoperative FNAC followed by surgical procedure and histologic examination.

Results: Of a total of 80 neoplasms, 73 were benign and 7 were malignant salivary gland tumors. Seventy cases (80.46%) were cytologically diagnosed as benign lesions, 3 (4.60%) were malignant and 4 (4.51%) were basaloid tumors. Cytological findings were nondiagnostic in 10 (11.49%). The most common benign cytologic diagnosis was pleomorphic adenoma; 43 out of 70 cases (61.43%). The cytologic diagnosis achieved a sensitivity of 98% for malignant salivary gland tumors.

Conclusions: Fine-needle aspiration cytology continues to be a reliable diagnostic technique most of the salivary gland lesions. A specific cytologic diagnosis is often possible. Re-aspiration of solid portion after cyst fluid aspiration is necessary to decrease the rate of inadequacy.

Keywords: FNAC, pre-operative, salivary gland

DEVELOPMENT OF DATABASE SEARCH SYSTEM FOR ORAL PATHOLOGY CASES IN FACULTY OF DENTISTRY UNIVERSITY KEBANGSAAN, MALAYSIA Wan Muhammad Ghazali Wan Sabri1, Nik Asyraf Amirul Nik Awan2, Norliwati Ibrahim1, Zaidi Dar2, Ajura Abdul Jalil2, 1Faculty of Dentistry, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia; 2Stomatology Unit, Institute of Medical Research, Kuala Lumpur, Malaysia

Objective: In collusion between oral pathology and information technology, we have developed a database management system that allows for a more comprehensive approach than the current manual system, to store and to audit oral pathology cases, other than assisting in research and teaching.

Study Design: Using Microsoft Access software, informations on 408 oral pathology cases at Faculty of Dentistry, University Kebangsaan Malaysia, from 2011-2013 are collected using three databases: sociodemographic records, clinical informations, and pathology reports. A set of algorithms is applied to automatically store and audit the cases.

Results: Instantaneously, we can view patients’ records on personal, clinical, imaging and laboratory details, current and previous diagnoses. Search records using patients’ id, diagnoses, race or gender is also possible, likewise, statistic reports can be generated.

Conclusions: This database management system allows us to comprehensively analyze and track cases throughout our archives. Using this technology, reporting, researching and teaching are made easy.

Keywords: Oral Pathology, database, search system, Microsoft Access

INVESTIGATION OF SENESCENCE OF CANCER ASSOCIATED FIBROBLASTS IN ORAL SQUAMOUS CELL CARCINOMA Do Kyeong Kim1, Eun Kyoung Kim1, Jung Yoon Bae2, Jin Kim2, 1Department of Oral pathology, BK21 PLUS Project, College of Dentistry, Yonsei University; 2Oral Cancer Research Institute, College of Dentistry, Yonsei University, Seoul, South Korea

Objective: Carcinoma-associated fibroblasts (CAF) have been recognized as prominent modifiers of cancer initiation and progression.

Study Design: This study was investigated the molecular mechanism of senescent CAF.

Results: We used hTERT-immortalized-human-normal-fibroblasts (hTERT-hNFO). To test whether senescent characteristics of CAFs are induced by OSCC, we employed co-culture-system. To observe senescence of CAF, SA-β-gal-staining was performed. The co-cultured-fibroblasts showed showed more expression of senesence markers than mono-cultured-hTERT-hNOFs. hTERT-hNOFs co-cultured with OSCC showed morphologically flattened and enlarged cell shapes. To understand the mechanisms leading to the conversion of hTERT-hNOF into CAFs, we focused on morphological-changes. We performed RT-PCR to identify Rho-GTPases, which play a key role in cytoskeletal-dynamics. FAK and RhoA were increased in hTERT-hNOF co-cultured with OSCC, indicating that these molecules might be key factors in senescence of CAFs.

Conclusions: In conclusion, we proposed that hTERT-hNOFs are converted into CAFs by modulation of FAK and RhoA.
Acknowledgement: Basic-Science-Research-Program, Na-
tional-Research-Foundation of Korea funded by the Ministry of 
Education (2009-0094027).

Keywords: Carcinoma-associated fibroblasts (CAF), 
TERT-hNOF, senescence

ORAL CHRONIC CANDIDIASIS IN APECED SYM-
DROME: STUDY BY CONFocal LASER SCANNING 
MICROSCOPE (CLSM) IN SIX CASES

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Angela Tempesta1, Simonetta Franco1, Francesco Pettini1, 
Hakan Avsever1, Ömer Günhan 2, 1Department of Dento-
carried out by CLSM.

excision biopsy was performed. Histological examination was
affected by Autoimmune Polyendocrinopathy-Candidiasis-Ecto-
dermal Dystrophy (APECED) highlighted by Confocal Laser 
Scanning Microscope (CLSM).

Six patients affected by APECED (middle age 22) referred to Oral Surgery Unit of University of Bari, 
Policlinico. They showed multifocal lesions (70% white, 30%
affected by OIN) induced by chronic candidiasis that 
focal laser scanning analysis, is essential to highlight epithe-
lis alterations (OIN) grade one or two. 

Conclusions: CLSM, allowing both conventional and 
confocal laser scanning analysis, is essential to highlight epithelial 
tissues alterations (OIN) induced by chronic candidiasis that 
could become malignant lesions.

Keywords: APECED, CLSM, Oral Intraepithelial Neoplasia

GIANT MELANOCYTIC NEVUS OF ORAL MUCOSA 
WITH GINGIVAL FIBRAMATOSIS: CASE REPORT

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Introduction: Although pigmented lesions are quite com-
mon in the mouth, lesions of melanocytic origin are uncommon. 
Oral melanocytic neviuses are benign tumours of melanocytes. 
The total number documented oral melanocytic nevius in the 
literature are <300 and there isn’t any giant melanocytic nevus of 
the oral mucosa in the literature.

Case Report: A 45-year-old female patient referred to our 
clinic for periodontal disease. In clinical examination a huge 
pigmented lesion was detected on the buccal mucosa and a 
gingival hyperplasia was also detected. Differential diagnosis was 
made with hemangioma and malign melanoma. There was no 
pulsation with palpation. Multiple biopsies were made in different 
times and from differet locations of the lesion. The samples were 
compatible with melanocytic nevus and gingival fibramatosis.

Conclusion: When such a lesion is detected on oral mucosa, it’s important to make multiple biopsies from different 
layers of the lesion.

Keywords: Gingival fibramatosis, melanocytes, melanoma, 
nevus, oral mucosa

THE RANGE OF LESIONS REFERRED TO A UK ORAL 
AND MAXILLOFACIAL PATHOLOGIST WITH AN 
EMPHASIS ON COMPLEXITY OF REFERRALS AND EF-
FECT ON FINAL DIAGNOSIS

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Objective: There is a need for second opinion histopathology 
referrals, especially with lesions in the head and neck area. 
The purpose of this study was to assess the pattern of referrals to a 
specialist Oral Pathologist, and the impact on diagnosis and pa-
ient management.

Study Design: 566 cases were identified with demographic 
and clinical information. Original diagnosis was compared to 
second opinion diagnosis to assess for discrepancy.

Results: 92% of cases were referred by general patholo-
gists. Salivary gland tumours were the most commonly referred 
category (29.5%) followed by odontogenic tumours (11.5%) and 
cysts (11%), 6% resulted in significant change in patient man-
agement with 19 cases revised from benign to malignant and 18 
from malignant to benign.

Conclusions: This study highlights the need for referrals in 
head and neck pathology especially in relation to salivary gland 
and odontogenic lesions. A second opinion may assist accurate 
diagnosis and patient management.

Keywords: Referrals, Head and Neck Pathology, Diagnosis

INCIDENCE OF SOFT TISSUE CALCIFICATIONS 
OF THE NECK REGION: A RETROSPECTIVE ANALYSIS ON 
CON BEAM COMPUTED TOMOGRAPHY

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and Science, Department of Statistics, Samsun, Turkey

Objective: The aim of this study was to determine the 
incidence and locations of the soft tissue calcifications (STC) on 
cone beam computed tomography (CBCT).

Study Design: 100 CBCT images were selected. The 
following conditions were recorded: 1) Tonsillar calcifications
PAPILLARY ONCOCYTIC CYSTADENOMA OF THE PAROTID GLAND: A CASE REPORT AND THE REVIEW OF THE LITERATURE
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Cystadenomas of salivary glands are rare, benign epithelial tumors that have two major variants; papillary and mucinous. Papillary cystadenoma has multilocular or unilocular cyst and in some cases the lining epithel of papillary projections is composed of oncocytic cells. We report a case of 41-year-old male renal transplant recipient patient who had 15 days history of swelling and pain in the right parotid localization. Total parotidektomi was performed. On gross examination there was 1.8 x 1.5 cm encapsulated cystic lesion and diagnosed as papillary oncocytic cystadenoma. We aimed to discuss histopathological features of papillary oncocytic cystadenoma and review the literature.

Keywords: cystadenoma, oncocytic, parotid

HUGE ODONTOMAS IN MANDIBULAR THIRD MOLAR AREA: A RARE CASE WITH HISTORY AND INTERMS OF THE TREATMENT APPROACH OF PATIENT
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Introduction: Odontomas are the most common and developmental odontogenic tumors and also malformations of dental hard tissues including enamel, dentin, cementum, and pulp.

Case: A 16-year-old female patient was presented to a surgical clinic with a mass and trismus of the mandible and also with taking antibiotic therapy in a repeatedly period in the recent year. We determined a huge size of odontomas in third molar region of the mandible with a molar tooth in the marginal mandible by clinical radiological and histopathological approaching to the patient. The lesion was managed with extra-oral surgical approach and also mandibulary reconstruction with using major reconstruction plate.

Conclusions: Early detection of these kinds of lesions is very important due to wrong treatment efforts may be harmful to the patients. Practitioners also must be awareness about taking panoramic roentgen in the first session of the meeting with the patient to detect these lesions.

Keywords: odontomas, reconstruction, pathology

MULTIFOCAL NODULAR ONCOCYTIC HYPERPLASIA OF THE PAROTID GLAND: A CASE REPORT
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Oncocytic lesions rarely affect the parotid gland, accounting for less than 1% of all salivary gland lesions. Multifocal nodular oncocytic hyperplasia of the parotid gland is an extremely rare condition. Here we present a case of multifocal nodular oncocytic hyperplasia of the parotid gland in a 78-year-old woman who had 5 months history of right preauricular swelling and pain with palpation. The patient underwent right superficial parotidectomy. In this report the histopathological features and the differential diagnosis of multifocal nodular oncocytic hyperplasia is discussed.

Keywords: nodular oncocytic hyperplasia, parotid

EGF IN SALIVA AND TISSUE SAMPLES OF ORAL LEUKOPLAKIA
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Objective: To investigate the salivary levels of epidermal growth factor (EGF) in patients with oral leukoplakia (OL) in comparison with healthy individuals and to verify the immunoexpression of EGF in samples of OL.

Study Design: The level of EGF was evaluated in saliva of 32 patients with OL as well as in matched healthy controls through enzyme linked immunoabsorbent assay (ELISA). EGF tissue expression was analyzed by immunohistochemistry.

Results: EGF salivary levels were lower in patients with OL in comparison with the control group, although the difference was not significant. There was no association among salivary levels and immunohistochemical expression of EGF. Immunorexpression of EGF was associated with lesions located in high risk regions and multiple lesions.

Conclusions: Salivary EGF should be reduced in patients with OL, however further studies are needed to elucidate the role of EGF in progression of oral cancer.


Keywords: Oral leukoplakia, EGF, Saliva, Oral Cancer.

CERVICOFACTORIAL SUBCUTANEOUS EMPHYSEMA BY HIGH SPEED AIR TURBINE: A CASE REPORT
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Cervicofacial subcutaneous emphysema is a rare complication of dental procedures. Most cases of emphysema occur incidentally with the use of high speed air turbine. The air enters into the cervicofacial soft tissues and is caged in the subcutaneous layer, between muscles, fascial area and other deep interstitial locations. We presented a 34 years old female patient with the
surgical subcutaneous emphysema during the dental extraction of the mandibular second molar (tooth 37) with a dental aerator. The patient was given prophylactic antibiotic and analgesic and the patient continued with the weekly follow up appointments, gradually resolution of the emphysema in approximately three weeks.

Keywords: Cervicofacial emphysema; dental procedures

A FIVE-YEAR RETROSPECTIVE STUDY OF PROVISIONAL AND FINAL DIAGNOSIS IN BIOPSYED JAW LESIONS

Elif Peker1, Faruk Öğütli1, Merve Çakır1, Özetkisi: The aim of the present study was to evaluate the effectiveness and biocompatibility of propylene mesh in animal model of nasal septal perforations on rabbits

Study Design: After creating 1x1 cm full thickness defect on nasal septum of 12 rabbits, septal perforations were restored either by only mucosal flap or by propylene mesh as interpositional graft plus mucosal flap. Four weeks after restoration, we analyzed resected nasal septum samples.

Results: Samples of only mucosal flap group showed all septal perforations remained. Septal structure remained intact at all samples of propylene mesh group. Of 5 samples of them showed +1 (62,5%) inflammatory response, 1 (12,5%) sample showed +2 and 2 samples showed +3 (25%) respectively. On 3 (37,5%) samples of mucosal flap group did not show any fibrosis.

Conclusions: Propylene mesh showed good biocompatibility with septal mucosa and can be used for repair of septal perforation as interpositional graft safely.

Keywords: nasal septal perforation, propylene mesh, graft, rabbit, histopathology

EVALUATION OF ORAL MUCOSAL BIOPSY

Betül Gündoğdu1, Havva Erdem2, Muhammed Çalış1, Nesar Gürsan1, Rabia Demirca1, 1Department of Oral and Maxillofacial Surgery, Gazi University, Ankara, Turkey; 2Department of Oral Pathology, Gazi University, Ankara, Turkey

Objective: The definitive diagnosis of jaw lesions is essential. However, their clinical and radiological appearance may mimic each other. The aim of the present study was to determine the accuracy of provisional diagnosis and to emphasize the importance of performing biopsy.

Study Design: A retrospective analysis of 1473 lesions was made.

Results: The study revealed that concordance between provisional and histopathological diagnoses of all lesions was 80.5%. Periapical granuloma, which provisionally diagnosed as radicular cyst, constitutes the overwhelming majority of the diagnostic disagreements. This data did not surprise us because of the same pathogenic process they have. Keratoctyd odontogenic tumor, which diagnosed as dentigerous or radicular/residual cyst provisionally, was the other most common diagnostic disagreement. The another most common type was ameloblasoma that diagnosed provisionally as dentigerous cyst.

Conclusions: The study emphasizes the diagnosis of jaw lesions should be based on clinical, radiographic, and histopathologic features.

Keywords: jaw lesions, retrospective study, provisional diagnosis, final diagnosis

EVALUATION OF ORAL MUCOSAL BIOPSY

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patient reported with swelling in the left parotid gland. Grossly excised the mass was 2 cm in diameter. Histologically BCAC was solid, trabecular and tubular patterns. BCAC is often difficult to diagnose salivary gland tumors that exhibit basaloid features differentially. It showed immunoreactivity for CK7, p63, HMWCK, variable myoepithelial staining with S100 and negative for CD117, SMA, GFAP. It is necessary to differentiate BCAC from other basaloid cell tumors (especially basal cell adenoma and adenoid cystic carcinoma) because of the differences in prognosis and potential differences in treatment. Although, incidence of BCAC in salivary gland is low, one should consider this entity as a differential diagnosis while reporting for the salivary gland pathology.

Keywords: parotid gland, basal cell adenocarcinoma, immunohistochemistry

MAMMARY ANALOGUE SECRETORY CARCINOMA OF THE SALIVARY GLAND: CASE REPORT Meryem Doğan, Gözde Kir, Murat Hakan Karabulut, Ayse Nur Ihi, Department of Pathology, Umraniyeh Education and Research Hospital, Istanbul, Turkey

This is a recently described subtype of salivary gland carcinoma, analogous to secretory carcinoma of the breast and similar tumours arising in skin. MASC was originally diagnosed as adenocarcinoma, not otherwise specified, or acinic cell carcinoma. It is most commonly found in the parotid gland, less often in minor salivary glands. A 53-year-old man with a history of a 10-year slow-growing tumour in the right parotid gland. Grossly excised the mass was 2.5 cm in diameter. Histologically MASC was papillary/cystic/glandrular patterns, ovoid/wrinkled nuclei, and abundant granular eosinophilic cytoplasm. It was positive for mammaglobin, HMWK, S100, vimentin, CK19 and incompletely positive for p63. MASC should be in the differential diagnosis of salivary gland tumors that morphologically mimic other neoplasms, mainly acinic cell carcinomas. Positivity for mammaglobin and S-100 are useful screening tools before confirmatory molecular studies.

Keywords: Salivary gland carcinoma; mammary analogue secretory carcinoma; parotid gland

HISTOPATHOLOGICAL EFFECTS OF FAT GRAFTING HARVESTED FROM LIPOASPIRATE ADIPOSE TISSUE ON ATROPHIC RHINITIS. RESULTS OF AN EXPERIMENTAL STUDY Mehmet Farka Öktay1, Mehmet Balur1, Ümit Taşkin1, Serdar Altınay2, Salih Aydin3, Kadir Yücebaş1, Duygu Sultan Çelik3, 1Başçılar Training and Research Hospital, Department of Ear&Nose&Throat, Istanbul, Turkey; 2Başçılar Training and Research Hospital, Department of Pathology, Istanbul, Turkey; 3Başçılar Training and Research Hospital, Laboratory of Experimental Animal, Istanbul, Turkey

Objective: To investigate the histopathological effects of fat grafting harvested from lipoaspirate adipose tissue on atrophic rhinitis.

Study Design: Atrophic rhinitis was obtained by application of pasteurella multocida toxin diluted with %0.9 NaCl into nasal cavities for 3 weeks. Eleven wistar hanover rats were included in this study and divided into two groups. The fat grafting harvested from lipoaspirate adipose tissue was applied into nasal cavity submucosally. After two weeks of follow up period, rats were decapitated and nasal cavities were resected totally.

Results: There was a significant improvement in study group compared to other groups according to basal membrane degeneration and glandular atrophy. The vacuolar degeneration, Squamous metaplasia, keratinization, vascular proliferation, inflammatory infiltration and congestion were not significantly different between groups.

Conclusions: Our study showed that fat grafting harvested from lipoaspirate adipose tissue have positive healing effect over degenerated mucosa on atrophic rhinitis in addition to the volume enhancer effect of tissue itself.

Keywords: atrophic rhinitis, lipoaspirate, graft, histopathological effect

EXPRESSION OF CELL CYCLE ASSOCIATED PROTEINS p53, pRB, p16, p27 AND CORRELATION WITH SURVIVAL: A COMPARATIVE STUDY ON SQUAMOUS CELL CARCINOMA (SCC) AND VERRUCOUS CARCINOMA (VC) OF ORAL MUCOSA Archana George Vallomthai1, Manoj Kumar Singh1, Amit Kumar Dinda1, Sandeep Mathur1, Alok Thakar2, Satya Das1, 1Department of Pathology, All India Institute of Medical Sciences, New Delhi, India; 2Department of Otorhinolaryngology, All India Institute of Medical Sciences, New Delhi, India; 3Department of Biotechnology, All India Institute of Medical Sciences, New Delhi, India

Objective: To evaluate immunoexpression of cell-cycle regulatory proteins (CCCRPs): p53, pRb, p16, p27 in SCC and VC, as differences in molecular pathogenesis between the two are not well-characterized.

Study Design: Immunohistochemistry for p53, pRb, p16, p27 was performed in 60 cases of SCC and 31 cases of VC.

Results: Majority of SCCs were in Stage III&IV (63%), while VCs were in Stage I&II (84%). p53 immunostaining was more in SCC (65%) than in VC (23%) (p<0.001). No significant difference was seen in pRb, p16, p27 expression. Disease-Free Survival (DFS) at 1year for SCC was 57% while it was 80% for VC (p<0.02). DFS of SCC correlated with nodal status and stage; CCRP expression had no association with DFS.

Conclusions: p53 immunoreexpression differs in SCC and VC, suggesting different pathogenesis, and it may be used as an adjunct to morphology to differentiate between the two. Expression of CCRPs does not influence survival in SCC.

Keywords: p53, pRb, p16, p27, verrucous carcinoma, Squamous cell carcinoma

THE EFFECT OF PROPOLIS IN THE TREATMENT OF PERIODONTITIS: AN EXPERIMENTAL STUDY IN RABBITS Farid Safaraliyev1, Jamal Musayev2, Narmina Gurskaya1, Fuad Mammadov1, 1Department of Prosthodontics, Azerbaijan Medical University, Baku, Azerbaijan; 2Department of Pathology, Azerbaijan Medical University, Baku, Azerbaijan; 3Department of Therapeutic Dentistry, Azerbaijan Medical University, Baku, Azerbaijan

Objective: To investigate the efficacy of propolis in treatment of periodontitis.

Study Design: Periodontitis was initiated in 30 rabbits in three groups by placing a bacterial plaque retentive ligature in the gingival sulcus around the incisor teeth. The first group was treated with propolis-based extract (Garnet Propolis, Siberian Health International™), whereas the second group was treated chlorhexidine solution during 4 weeks. No any treatment has not been applied in the other group. Gingival samples were taken at
the end of each week. Histological parameters were evaluated by semi-quantitative method.

**Results:** There was no any statistically significant difference between first and second groups. However, the extinction of acute tissue reactions such as inflammation and necrosis has been observed earlier in the second group than first. At the same time, fibrosclerotic changes were seen more widely in the second group than first.

**Conclusions:** Propolis can be use as an effective alternative method in treatment of periodontitis.

**Keywords:** Propolis, treatment of periodontitis, histopathology, experimental study

GORLIN-GOLTZ SYNDROME: MAXILLOFACIAL AND HISTOPATHOLOGICAL FEATURES IN THREE CLINICAL CASES FROM TWO FAMILIES

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Gorlin-Goltz syndrome (Basal Cell Nevus Syndrome), an autosomal dominant disorder, is characterized by basal cell carcinoma, skeletal anomalies and multiple keratocysts of the jaws. The skeletal anomalies of this syndrome are mandibular prognathism, significance of supraorbital ridges, bossing of frontal and parietal bones, palate and lip anomalies, bifid rib and vertebral anomalies. In this study, the clinical and histopathological presentation described three cases from two families with Gorlin-Goltz syndrome. Multiple mandibular and maxillary keratocysts diagnosis was confirmed by histopathological examination. Although no evidence of basal cell carcinoma was observed in three cases, Gorlin-Goltz syndrome was identified by clinical features, imaging and histologic findings. The primary sign of Gorlin’s Syndrome can occur as multiple keratocysts. Because of this syndrome is likely to turn into cancer, early diagnosis and treatment are very important. Because of this condition, patients should be monitored throughout life.

**Keywords:** Gorlin-Goltz Syndrome, Basal Cell Nevus Syndrome, Odontogenic Keratocysts

**hnRNP K IS A NEW PROSPECTIVE MARKER OF EARLY DETECTION FOR TONGUE CARCINOCENESIS**

Junichi Tanuma, Michiko Ehara, Motohiko Nagayama, Department of Oral Pathology, Division of Oral Pathogenesis and Disease Control

**Objective:** Previously, we have reported that heterogeneous nuclear ribonucleoprotein K (hnRNP K) was associated with a pre-malignant state during 4-nitroquinoline 1-oxide induced rat tongue carcinogenesis.

**Study Design:** In this study, to investigate whether this gene is also associated to human oral cancer, we focused on hnRNPK gene and examined the relationship between mRNA expressions and the hyperplasia (Hyp), epithelial dysplasia (Dys) and SCC samples. We analyzed 130 cases and the expressions of hnRNP K using by immunohistochemistry and RT-PCR.

**Results:** These results showed that the level of hnRNPK mRNA and protein were significantly altered in Dys and SCC samples compared to normal epithelium. The immunohistochemical expression of hnRNPK was 2-holds higher in the Hyp, Dys and SCC. The hnRNPki mRNA expression level also was 3-holds higher in the Hyp, Dys and SCC.

**Conclusions:** These data suggest that this marker could be for the early detection of pre-malignant lesion of oral cancer.

**Keywords:** tongue carcinogenesis, pre-malignant lesion, heterogeneous nuclear ribonucleoprotein K

AN AUTOIMMUNE MUCOCUTANEOUS DISEASE: PEPHIGUS VULGARIS

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Pemphigus Vulgaris diseases are characterized by autoantibodies against the intercellular junctions that lead to acantholysis and intraepithelial blisters. Pemphigus Vulgaris, the most common form of the group, is rare but life-threatening autoimmune disease that affects skin and mucous membranes. Pemphigus Vulgaris is characterized by thin-walled, relatively loose, easily tearable vesicle and bullae or erythematous areas. In this case report, a 50 year old male patient referred to our department complaining burning and pain in his mouth especially during oral intake. We observed wide erythematous areas, erosions and vesicle in buccal mucosa, gingiva and lip. Also he had lesions at his inguinal, dorsal side, leg and scalp. According to pathology report of our incisional biopsy taken from buccal mucosa, diagnosis was Pemphigus Vulgaris. We consulted patient to Dermatology department and he was hospitalized immediately.

**Keywords:** autoimmune disease, mucocutaneous lesion, pemphigus vulgaris,

ORTHOKERATINIZATION-RELATED FACTORS IN THE ORAL DYSPLASIA-SQUAMOUS CELL CARCINOMA SEQUENCES

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**Objective:** Keratin (K) 10-positive (+) orthokeratotic epithelial dysplasia (OKD) of the oral mucosa is one of the background conditions of oral squamous cell carcinoma (SCC). We wanted to profile keratinization-related factors in those lesions to examine how the K10+ phenotype is processed during the oral carcinogenic pathway.

**Study Design:** We performed immunohistochemistry in surgical materials from oral dysplasia-carcinoma sequence lesions. Oral SCC cell lines were also investigated by immunofluorescence, western blotting, and PCR.

**Results:** Immunohistochemically, in addition to K10, caspase-14 and filaggrin were strongly positive in OKD, while they were not in normal to dysplastic epithelia. In differentiated carcinoma in-situ and well-differentiated SCC, caspase-14 and filaggrin were positive in keratinized areas. Caspase-14 expressions in both mRNA and protein levels were confirmed in oral SCC cell lines such as ZK-2, HSC-2, and HSC-4.

**Conclusions:** Some molecular mechanism related to orthokeratinization could be involved in the sequential oral cancerization.
Keywords: oral squamous cell carcinoma, orthokeratotic dysplasia, orthokeratosis, caspase-14, filaggrin, involucrin

AN ULCERATED GINGIVAL MASS IN AN 8-YEAR-OLD CHILD: REPORT OF A RARE CASE Saede Atarbashi Moghadam1, Saeideh Mokhtari2, Sepideh Mokhtari1, 1Assistant Professor, Department of Oral and Maxillofacial Pathology, Dental School of Shahid Beheshti University of Medical Sciences, Tehran, Iran; 2Assistant Professor, Department of Oral and Maxillofacial Surgery, Suleyman Demirel University, Isparta, Turkey

Periapical odontogenic lesions are considered to be rare within the classification of odontogenic tumors. They share the same microscopic characteristics of their central counterparts. Here, we report a case of peripheral odontoma in an 8-year-old girl who presented with an ulcerated mass of the maxillary gingiva. Histopathological examination proposed a diagnosis of peripheral ameloblastic fibro-odontoma or developing peripheral odontoma. However, clinical features and more investigations in histologic sections confirmed the diagnosis of a developing peripheral odontoma. Developing odontoma in many cases has the same histopathologic features as ameloblastic fibro-odontoma. In addition, both are rare odontogenic entities and this can make diagnostic challenges for pathologists. However, major content of soft odontogenic tissue and an evident growth potential in ameloblastic fibro-odontoma can help to the proper diagnosis in most cases.

Keywords: ameloblastic fibro-odontoma, peripheral odontoma, gingival mass

INTRAOSSEOUS LYMPHANGIOMA INVOLVING RAMUS MANDIBLE: A CASE REPORT Derya Yıldırım1, Recep Duzsoz1, Yavuz Findik2, Timuçin Baykul3, Ömer Günhan3, 1Department of Dentomaxillofacial Radiology, Suleyman Demirel University, Isparta, Turkey; 2Department of Oral and Maxillofacial Surgery, Suleyman Demirel University, Isparta, Turkey; 3Department of Pathology, Gülhane Military Medical Academy, Ankara, Turkey

Intraosseous lymphangioma is regarded as a congenital vascular tumor characterized by endothelium-lined lymphatic channels distributed in the submucosa histopathologically. We report a rare case of intraosseous lymphangioma involving ramus mandible. A 44-year-old female patient attended to our clinic with the complaint of bruxism and gingival bleeding. Panoramic radiographic examination revealed a radiolucent well-defined lesion on left ramus mandible. The patient was evaluated with cone beam CT and MRI. Incisional biopsy revealed a vascular lesion. Therefore Angiography and contrast enhanced CT examination performed. The lesion was excised surgically and diagnosed as intraosseous lymphangioma histopathologically. Lymphangioma rarely involves bone and there were three previous reports of lymphangioma involving the mandible in the literature. These lesions have similar clinical and radiographical features with hemangioma of bone but the lack of surgical hemorrhagia control problems and radiological, histopathological examination findings are provided the confirmation of diagnosis in this rare case report.

Keywords: Intraosseous lymphangioma mandible, CBCT, MRI

IMMUNOPROFILE OF APOPTOTIC PROTEINS IN MALIGNANT SALIVARY GLAND TUMORS Daniela Cotta Ribeiro1, Patricia Carlos Caldeira1, Alexandre De Andrade Sousa1, Maria Cássia Ferreira De Aguiar1, 1Department of Oral Pathology of the School of Dentistry, Federal University of Minas Gerais, Belo Horizonte, Brazil; 2Department of Surgery of the School of Medicine, Federal University of Minas Gerais, Belo Horizonte, Brazil

Objective: To evaluate the expression of apoptotic proteins in malignant salivary gland tumors and to compare with gland tissue.

Study Design: Ten tumors (polymorphous low grade adenocarcinoma, adenoid cystic carcinoma, acinic cell adenocarcinoma, and mucoepidermoid carcinoma) were included and the proteins caspase 3 and 8, bcl-2, bax, survivin, and thioredoxin were investigated by immunohistochemistry. Salivary gland tissue associated or not to the tumor was also included.

Results: Bcl-2 and survivin showed a higher expression in tumors than in glandular tissue, but the difference was not statistically significant. Pro-apoptotic proteins (caspases and bax) had a low expression in tumors and salivary tissues. A correlation between thioredoxin and survivin was found.


Keywords: Salivary Glands, Malignant Neoplasm, Apoptosis, Immunohistochemistry

PROFILE OF USAGE OF A REFERENCE DIAGNOSTIC SERVICE ON ORAL PATHOLOGY: A 10-YEAR EVALUATION Patricia Carlos Caldeira1, Karla Rachel Oliveira E Silva1, Ana Luísa Lara Siqueira1, Mauro Henrique Nogueira Guimarães De Abreu2, Maria Cássia Ferreira De Aguiar1, 1Department of Oral Pathology of the School of Dentistry, Federal University of Minas Gerais, Belo Horizonte, Brazil; 2Department of Community and Preventive Dentistry of the School of Dentistry, Federal University of Minas Gerais, Belo Horizonte, Brazil

Objective: To report data about the exams performed in a Brazilian regional reference laboratory of oral pathology.

Study Design: Information about requestor of exam; diagnosis classification; and immunohistochemical tests of the exams performed between 2002 and 2012 was retrieved from the files. Descriptive statistical analyses were done.

Results: 13,522 histopathological exams were performed. The Public Health System of Belo Horizonte was the main requestor (77.13%), followed by private professionals (19.26%), and other cities (2.03%). Most lesions were benign (12,599/93.17%), with 854 malignant (6.32%). 469 immunohistochemical tests were performed; 324 (69.08%) were from benign diagnosis, 224 (47.77%) from malignant diagnosis, and 93.17% from unknown diagnosis. The most used antibodies were against S100, vimentin, smooth muscle actin, actin muscle specific, and pan-cytokeratin.

Conclusions: Public Health System is the major user of the Service. Most diagnoses were of benign lesions, although many malignant lesions were detected. Immunohistochemistry was needed in few cases to a conclusive diagnosis. Support: FAPEMIG CDSPPM00221-13; CNPq: 475141/2010-5, 302711/2010-4, 150144/2014-8.
ARTERIOVENOUS MALFORMATION OF TONGUE: CASE REPORT
Havva Serap Toru1, Irem Hicran Özbudak1, Hasan Umit Özçalı7, Nevzat Öncan7, Umit Yolcu1, 1Department of Oral and Maxillofacial Surgery, Inonu University Faculty of Dentistry, Malatya, Turkey; 2Department of Pathology, Inonu University Faculty of Medicine, Malatya, Turkey

An old woman who presented with a hemorrhagic lesion in the anterior part of the tongue. The lesion was measured 0.3 cm in diameter and surgical resection was performed. Histological examination was revealed a vascular lesion which composed of anastomosing muscular arteries and veins beneath the hyperplastic surface epithelium. The lesion was diagnosed as ‘arteriovenous malformation of tongue’. Although vascular malformations characterized with expansion of vascular spaces rarely occur in the tongue, it should be considered in the differential diagnosis of vascular tongue lesions along with hemangiomas which are more common in this location.

Keywords: Vascular anomaly, fetal capillary bed, oral, hemorrhagic lesion, tongue

MAXILLARY AND ORAL MANIFESTATIONS OF PEDIATRIC PATIENTS WITH CHRONIC RENAL FAILURE
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Objective: To describe the clinical and radiographic dental features in pediatric patients with Chronic Renal Failure (CRF) of the Nephrology Service of a general hospital.

Study Design: Voluntarily 33 patients with CRF and 33 control group (7-16 years) participated. Clinical examination, smear of oral mucosa and panoramic radiographs was performed. A statistical package was used for statistical analysis.

Results: We found a higher prevalence of oral alterations in CRF patients than the control group. There is a direct relationship between time of illness and time of renal therapy in worsening oral alterations, enamel hypoplasia, forms of cortical mandibular and signs of osteopenia; and good direct correlation between chronological age and biological age dental.

Conclusions: Found higher prevalence of xerostomia, uremic breath, oral alterations, enamel hypoplasia, tooth decay, forms of cortical mandibular and signs of osteopenia in children with CRF.

Keywords: Chronic renal failure, oral manifestations, secondary hyperparathyroidism, osteopenia, tooth decay.

A RETROSPECTIVE ANALYSIS OF ORAL LANGERHANS CELL HISTIOCYTOSIS IN IRANIAN POPULATION: A 20-YEAR EVALUATION
Saede Atarbashi Moghadam1, Batool Pirooz Hashemi1, Ali Lofti1, Sepideh Mohktari1, 1Assistant Professor, Department of Oral and Maxillofacial Pathology, Dental School of Shahid Beheshti University of Medical Sciences, Tehran, Iran; 2Undergraduate Student, Dental School of Shahid Beheshti University of Medical Sciences, Tehran, Iran

Objective: The frequency of Langerhans cell histiocytosis (LCH) in oral cavity is largely incomplete in the literature. The purpose of this study was to obtain its prevalence and to compare the data with previous reports.

Study Design: The archives of Oral and Maxillofacial Pathology Department of Shahid Beheshti University of Medical
Sciences from 1992 to 2012 were searched for cases recorded as LCH.

Results: 20 cases were found and the relative frequency was 0.34%. The most common location was posterior of mandible. The male to female ratio was 3:1 with a mean age of 27.5 years. Most of the lesions were localized. Tooth mobility was the most common oral presentation.

Conclusions: In Iranian population like many other countries the relative frequency of the oral LCH is low. Periodontal problems may be the early signs of disease and the posterior mandible requires special attention. Most oral lesions are localized, although multisystemic disease must be considered.

Keywords: Langerhans cell histiocytosis, Oral cavity, Frequency

EPSTEIN-BARR VIRUS IN ORAL SQUAMOUS CELL CARCINOMAS AFFECTING VIETNAMESE POPULATION Nguyen Thi Nguyen Anh, Le Duc Lanh, Nguyen Thi Hong, Tran Thi Kim Cu, Department of Oral Pathology, Faculty of Odonto-Stomatology, HoChiMinh University of Medicine and Pharmacy, Vietnam

Objective: To investigate the prevalence of EBV in oral squamous cell carcinomas (OSCCs), and its association with demographic features such as age, gender, oral habits, clinical and pathological features of oral cancer.

Study Design: In this retrospective case-control study, real-time PCR was performed to detect EBV DNA in 80 OSCC cases treated at Ho Chi Minh city Oncology Hospital from August 2009 to December 2010. Eighty normal oral mucosa tissues from matched health individuals served as control group.

Results: The prevalence EBV in OSCCs was 50% (40/80), significantly higher than 10% (8/80) detected in the normal mucosa tissues (p<0.05). This prevalence was not found to be significantly associated with the age, gender, oral habits, tumor site, clinical stage, and histological grade of the tumor (p>0.05).

Conclusions: EBV infection could be involved in OSCCs and associated with some OSCCs affecting Vietnamese population. Further studies are needed to confirm its association in tumorigenesis of OSCCs.

Keywords: EBV, oral squamous cell carcinoma, PCR

EFFECTS OF LOW-LEVEL LASER THERAPY ON BONE REGENERATION IN THE EXPANDED PREMAXILLARY SUTURE IN AN OVARIECTOMIZED RAT MODEL Mutan Hamdi Aras1, Zehra Bozdağ2, Tuncer Demir3, Ridvan Oğşayan3, Saim Yanık4, Oral Sökücü5, 1Department of Oral and Maxillofacial Surgery Gaziantep University, Gaziantep, Turkey; 2Department of Pathology Gaziantep University, Gaziantep, Turkey; 3Department of Physiology Gaziantep University, Gaziantep, Turkey; 4Department of Orthodontics Gaziantep University, Gaziantep, Turkey; 5Department of Medical and Pharmacy, Faculty of Medicine, Gaziantep University, Gaziantep, Turkey

Objective: This study aimed to evaluate the effects of low-level-laser-therapy (LLLT) on bone regeneration in the expanded premaxillary suture in an ovariectomized rat model.

Study Design: All of the animals underwent ovariectomy 3 months before the experiment. Expansion appliances were affixed to the maxillary incisors. The premaxillary sutures of the laser group were exposed to 5 J/cm² laser energy, and no treatment was performed for the controls.

Results: Histological findings indicated that active laser group showed statistically significantly higher number of osteoblasts and lower number of osteoclasts than did the control group. And active laser group exhibited a capillary increase without statistically significant differences.

Conclusions: We conclude that low-level laser increased bone regeneration and decreased osteoclastic activity in the ovariectomized rats. Further investigations to clarify the effect of LLLT on post-menopausal patients.

Keywords: Low-Level Laser Therapy, Premaxillary Suture, Ovariectomized rat

THE HISTOPATHOLOGICAL EFFECTS OF THE TERIPARATIDE ON BISPHOSPHONATE-ASSOCIATED JAWBONE OSTEONECROSIS: AN ANIMAL STUDY Aydn Keskinrizgar1, Zehra Bozdağ2, Hamdi Mutan Aras1, Tuncer Demir3, Umit Yolcu4, Sedat Çetiner5, 1Department of Oral and Maxillofacial Surgery, Faculty of Dentistry, Gaziantep University, Gaziantep, Turkey; 2Department of Pathology, Faculty of Medicine, Gaziantep University, Gaziantep, Turkey; 3Department of Medical Physiology, Faculty of Medicine, Gaziantep University, Gaziantep, Turkey; 4Department of Oral and Maxillofacial Surgery, Faculty of Dentistry, Inonu University, Malatya, Turkey; 5Department of Oral and Maxillofacial Surgery, Faculty of Dentistry, Gazi University, Ankara, Turkey

Objective: Osteonecrosis of the jaws following tooth extraction is one of the major complications of the patients used bisphosphonate for preventing metastatic cancer and treatment of osteoporosis. The aim of this study is to investigate the histopathological effects of the teriparatide (synthetic form of parathyroid hormone) on rats developed osteonecrosis with bisphosphonate.

Study Design: Eighty rats that were injected Zoledronic acid intraperitoneally during 7 weeks were used in this study. Both maxillary first molar extraction and bone defect was established in same region at the eighth weeks. Teriparatide was administered subcutaneously for preventing osteonecrosis. Animals were sacrificed and histopathological changes were examined. Bone healing, osteoblastic and osteoclastic activities were evaluated.

Results: A statistically significant differences was observed between the groups for bone healing and osteoclastic activity.

Conclusions: Teriparatide has positive effects on the prevention of osteonecrosis, but further studies are required to verify the effectiveness of teriparatide for the treatment.

Keywords: Bisphosphonate, Teriparatide, PTH (1-34), parathyroid hormone, osteonecrosis

INVESTIGATING THE EFFECT OF VITAMIN D3 (1,25(Oh)2d3) (CALCITRIOL) ON THE OSTEONECROSIS OF BONE OCCURED AFTER TOOTH EXTRACTION ON THE RATS HAVE GIVEN ZOLEDRONIC ACID (ZOMETA) Saim Yanık1, Mutan Hamdi Aras1, Suna Erkiş2, Zehra Bozdağ2, Tuncer Demir3, Sedat Laçiner4, 1Department of Oral and Maxillofacial Surgery Gaziantep University, Gaziantep, Turkey; 2Department of Pathology Gaziantep University, Gaziantep, Turkey; 4Department of Physiology Gaziantep University, Gaziantep, Turkey; 3Department of Oral and Maxillofacial Surgery Gazi University, Ankara, Turkey

Objective: This study aimed to investigate the effectiveness of teriparatide in the rats that were given zoledronic acid (synthetic form of parathyroid hormone) and osteonecrosis of the jaws following tooth extraction are occurred.

Study Design: Eighty rats that were injected Zoledronic acid intraperitoneally during 7 weeks were used in this study. Both maxillary first molar extraction and bone defect was established in same region at the eighth weeks. Teriparatide was administered subcutaneously for preventing osteonecrosis. Animals were sacrificed and histopathological changes were examined. Bone healing, osteoblastic and osteoclastic activities were evaluated.

Results: A statistically significant differences was observed between the groups for bone healing and osteoclastic activity.

Conclusions: Teriparatide has positive effects on the prevention of osteonecrosis, but further studies are required to verify the effectiveness of teriparatide for the treatment.

Keywords: Bisphosphonate, Teriparatide, PTH (1-34), parathyroid hormone, osteonecrosis.
Therapeutic effects of Vitamin D3 in bisphosphonates related osteonecrosis of the jaw: a rat model

Evaluating the effectiveness of vitamin D3 in bisphosphonates related osteonecrosis of the jaw (BRONJ)

Bruxer et al.

Key points

- Vitamin D3 increased the number of osteoclasts statistically significant in all groups.
- Vitamin D3 can use effectively in the treatment of BRONJ because of its inducing effect of number of osteoclasts.

Abstract

Objective: Aim of this study was to investigate the efficacy of calcitriol in the treatment of the bisphosphonates related osteonecrosis of jaws (BRONJ).

Study Design: Bisphosphonates are pharmaceutical agents that are used to treat numerous metastatic bone disorders. BRONJ is pathological osseous complication resulting jawbone necrosis following the use of bisphosphonates. Eighty rats were divided into two groups: control and study groups. Osteonecrosis was created in the upper jaw of all animals. Calcitriol was given to study groups preoperatively, postoperatively and after osteonecrosis. All animals were sacrificed 10, 15 and 17 weeks and bone specimen was taken from the maxilla. Histologic analyses were done.

Results: Vitamin D particularly increased the number of osteoclasts statistically significant in all groups.

Conclusions: Vitamin D can use effectively in the treatment of BRONJ because of its inducing effect of number of osteoclasts. However, further investigations are needed.

Keywords: vitamin D3, osteonecrosis, Zoledronic Acid, Calcitonin, vitamin D, Bisphosphonate, Bone Necrosis

Inflammatory myofibroblastic tumor of the maxilla related to dental implant surgery

Kang et al.

Key points

- Inflammatory myofibroblastic tumor (IMT) is a lesion characterized by myofibroblastic proliferation and inflammatory cell infiltration. Though biologic behavior of IMT is generally benign, now it is thought to be borderline condition. Destructive nature, local recurrence and malignant change have been reported. Etiology remains unknown, but inflammatory stimulus may be possible cause.

Abstract

Objective: To evaluate the efficacy of oral and maxillofacial surgery department in the treatment of dental implant surgery.

Study Design: A total of 50 patients underwent dental implant surgery in the oral and maxillofacial surgery department of Maxilla, Rat University, Faculty of Medicine, Ankara, Turkey.

Results: The results of this study highlight the existence of tumor deposits in thirty-one patients with SCC in oral cavity were re-evaluated for TDs along with clinicopathological prognostic features.

Conclusions: The results of this study highlight the existence of tumor deposits in neck dissection specimens of oral cavity SCC cases. Their prognostic value should be evaluated in larger series.

Keywords: tumor deposits, mandible, multiple myeloma

Lymphoepithelial carcinoma: is it parotideal or metastasis?

Colakkad et al.

Key points

- Lymphoepithelial carcinomas (LEC) mainly occur in the nasopharynx, but rarely described in salivary glands with most cases affecting the parotid gland. A 24-year-old male presented with parotideal mass, and left cervical lymphadenopathy. FDG-PET scan revealed hypermetabolic lesion involving left parotid. Parotidectomy was performed. Histopathologic examination showed irregularly shaped islands and syncytial masses of eosinophilic epithelioid cells widely separated by lymphocyte-rich stroma which composed of mixed B and T cells. Immunohistochemical analysis showed strong positivity with pancytokeratin, p-63 and EBV antibodies for the epithelial cells. These results suggested LEC. For the differential diagnosis of metastatic tumor, nasopharyngeal biopsy was performed. As the biopsy taken from nasopharynx was normal, parotidectomy was confirmed. Although LEC of the parotid gland is very rare, it should be kept in mind in the differential diagnosis of parotid masses. But metastatic tumors of the nasopharynx should be excluded before giving this diagnosis.

Keywords: Lymphoepithelial carcinomas, nasopharynx, parotid

Tumor deposits in oral cavity squamous cell carcinomas

Sarioglu et al.

Key points

- Tumor deposits (TD) are described as tumor nodules in adipose tissue with no lymph node morphology. There are many studies regarding TD in colorectal adenocarcinomas and only a few at other organs, however there is not much information about the carcinomas of the oral cavity.

Abstract

Objective: Tumor deposits (TD) are described as tumor nodules in adipose tissue with no lymph node morphology. There are many studies regarding TD in colorectal adenocarcinomas and only a few at other organs, however there is not much information about the carcinomas of the oral cavity.

Study Design: Tumor positive neck dissection specimens from thirty-one patients with SCC in oral cavity were re-evaluated for TDs along with clinicopathological prognostic features.

Results: Tumor deposits were detected in seven (29%) cases and all the TD positive cases were both clinical and pathological stage IV and also had pericapsular invasion at other lymph nodes. However TD was not a prognostic factor for disease free and over all survival.

Conclusions: The results of this study highlight the existence of tumor deposits in neck dissection specimens of oral cavity SCC cases. Their prognostic value should be evaluated in larger series.

Keywords: Tumor Deposits, Oral Cavity, Squamous Cell Carcinoma
FOCAL CEMENTO-OSSEOUS DYSPLASIA  Yener Öğnç1, Ülkem Aydin2, Burcu Şengil2, Taner Köroğlu3, 1Baskent University, Faculty of Dentistry, Department of Oral and Maxillofacial Surgery; 2Baskent University, Faculty of Dentistry, Department of Oral and Maxillofacial Radiology; 3Gazi University, Faculty of Dentistry, Department of Oral Pathology, Ankara, Turkey

Focal cemento-osseous dysplasia is a benign reactive or dysplastic change of bone that can be seen in both dentulous and edentulous patients. Radiographically, this lesion has three stages of maturation: radiolucent, mixed radiopaque/radiolucent, and radiopaque. A 35-year-old female patient was referred to our clinic complaining of swelling on the right mandibular first molar region, where the tooth was extracted 18 years ago. Later, a hard, painless expansion was formed on this area. On clinical examination, the lesion was bone hard, with 3 cm in diameter and there was bucco-lingual expansion; the gingiva appeared normal. On the panoramic radiograph, the lesion was a mixed radiopaque-radiolucent lesion that was more radiopaque centrally and more radiolucent peripherally, with ill-defined borders. The lesion was totally excised under local anesthesia, and surgical specimens were submitted for histopathological examination. The histopathological diagnosis was focal cemento-osseous dysplasia.

**Keywords:** semento-osseous, dysplasia, lesion

CASE REPORT: MARSUPIALIZATION OF ODONTOGENIC KERATOCYST AND FOLLOW UP WITH CBCT Hülya Koçak Berberoğlu1, Banu Gürkan Köseoğlu2, Yakar Olgaç3, Ender İker1, Başak Keskin1, 1Department of Oral and Maxillofacial Surgery, Dentistry, Istanbul University, Istanbul, Turkey; 2Department of Pathology, Oncology Institute, Istanbul University, Istanbul, Turkey

Cyst of maxilla, mandibula and perioral and perioral regions vary markedly in histogenesis, incidence behavior and treatment. These are mostly seen only in the jaws. Odontogenic keratocyst (OKC) is a developmental cyst and World Health Organization (WHO) now referred OKC as keratocyst odontogenic tumor (KCOT). It is cystic lesion originate from a dental lamina or from the primordial odontogenic epithelium that benign neoplasm characteristics and it has high recurrence rate. It has different treatment modality. There are different treatment modality for KCOT including marsupialization, enucleation with curettage, resection, Carnoy’s solution, cryotherapy. Marsupialization is effective and conservative treatment option of KCOT. The aim of these cases are evaluated marsupialization of KCOT with CBCT in two cases.

**Keywords:** odontogenic keratocyst, marsupialization, treatment

FDG-POSITIVE WARTHIN’S TUMORS IN PAROTID GLAND MIMICKING METASTATIC CARCINOMA: FOUR CASES REPORT Taba Cumpola, Department of Pathology, Baskent University, Adana, Turkey

Positron emission tomography (PET) with F-18 fluorodeoxyglucose (FDG) is a widely used, proved to be useful imaging technique for diagnosing, staging and follow-up tumors. There are potential pitfalls caused by the FDG uptake of salivary gland. Warthin tumor is known to be a benign tumor which may be found incidentally during PET studies and may be mistaken for primary or metastatic malignancies of the parotid gland or metastatic lymph nodes. We report four cases with different types of malignancies (lung, stomach, breast, lymphoma) and a high FDG uptake in the parotid gland. Histopathological examination of the biopsies taken from the parotid glands to evaluate the high FDG uptake were revealed Warthin’s tumor diagnosis. Although very useful, PET/CT is not perfect, with many potential causes of false-positive FDG uptake that will cause problems for correct staging and adequate treatment. Definitive diagnosis may need to be confirmed by histopathological evaluation.

**Keywords:** FDG-positive Warthin’s tumors, mimicking metastases

NASOPALATINE DUCT CYSTS: EVALUATION OF SEVEN CASES Çağrı Akoçay, Neşe Kahraman, Hâlya Koçak Berberoğlu, Banu Gürkan Köseoğlu, Istanbul University, Faculty of Dentistry, Department of Oral and Maxillofacial Surgery

Nasopalatine duct cysts are the most common non-odontogenic cyst of the jaws. A developmental cyst, NPDC is believed to arise from epithelial remnants of the nasopalatine duct, the communication between the nasal cavity and anterior maxilla in the developing fetus. As fetal development continues, this connection gradually narrows as the bones of the anterior palate fuse. The result is the formation of the incisive canals that carry nerves and vessels, as well as epithelial rest from the degenerated nasoplatine ducts. It is largely accepted that the NPDC arises from the proliferation of epithelial remnants of the embryologic nasopalatine duct. Radiographically, NPDCs are usually well-circumscribed radiolucencies of the anterior maxilla. Patients may be asymptomatic, with the lesion being detected on routine radiographs. In this cases reports we evaluated seven cases and we followed up three years. They weren’t seen any nubs in these cases.

**Keywords:** nasopalatine, duct, cyst, insisive, case

EFFECT OF THYMEO EXTRACT ON EXPERIMENTAL PERIODONTITIS IN RABBITS: STUDY WITH HISTOLOGIC CONTROL Elmira Aliyeva1, Adalat Hasanov2, Jamal Musayev3, Fuad Mammadov2, 1Department of Prosthodontics, Azerbaijan Medical University, Baku, Azerbaijan; 2Department of Pathology, Azerbaijan Medical University, Baku, Azerbaijan; 3Department of Theraпеutic Dentistry, Azerbaijan Medical University, Baku, Azerbaijan

**Objective:** To determine the efficacy of thyme extract (TE) in treatment of periodontitis.

**Study Design:** Periodontitis was initiated in 30 rabbits by placing a ligature in the gingival sulcus around the incisor teeth. The first group was treated with TE; the second group was treated with TE containing vitamin A and E during 4 weeks. Treatment with chlorhexidine solution was done in the third group. Gingival samples were taken at the end of each week for histologic examination.

**Results:** There was statistically significant difference (p<0.01) between second and third groups according to tissue reparation and disappearing of inflammation. However, animals of the second group have been healed earlier than animals of third group. Fibrosclerotic changes were seen more widely (but without significant difference) in the second group than others.

**Conclusions:** TE can be use as an effective method in treatment of periodontitis. To add of vitamin A and E to TE strengthens the therapeutic effect.

**Keywords:** Thyme extract, periodontitis, experimental study, histology
SYNCHRONOUS UNILATERAL PAROTID GLAND NEOPLASMS OF TWO DIFFERENT HISTOLOGICAL TYPES
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The parotid gland is the most usual location of benign neoplasms. The occurrence of multiple tumours in the parotid glands is rare and the majority of these are multifocal Warthin’s tumours. There are many articles about multiple parotid tumours but only a few of them are focused on unilateral synchronous benign tumours. The most common combination is a pleomorphic adenoma and a Warthin’s tumor.

We report a 55-year-old female with a basal cell adenoma occurring synchronously with a Warthin’s tumor within the superficial be of her left parotid gland.

Keywords: Synchronous, parotid gland neoplasm, unilateral

ANCIENT SCHWANNOMA OF THE PAROTID GLAND: A CASE REPORT
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Ancient schwannoma in the head and neck region is very rare. The tumour occurring in the intraparotid facial nerve is even rarer. In this report, a 37-year-old male patient with an ancient schwannoma of the parotid gland is presented. Grossly masses were 3 × 2.5 × 2 and 3 × 2 × 2 cm in size. They were well encapsulated and had firm gray white cut surface with hemorrhagic areas. In immunohistochemical study, S 100 protein, vimentin and GFAP was found to be positive. The histological and immunohistochemical examination yielded a diagnosis of ancient schwannoma. Because this is unusual, the case is presented together with the histopathological findings.

Keywords: Ancient schwannoma, parotid gland, head and neck

PLEOMORPHIC ADENOMA OF THE LARYNX: CASE REPORT
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Pleomorphic adenomas are the most common benign neoplasm of the salivary glands. It usually occurs in major salivary glands, such as the parotid and submandibular glands. However, it uncommonly arises from the larynx. These lesions generally present as a slow-growing, painless mass. Malignant transformation of is very rare, but it is increases with time. We report a case of a 59-year-old male who presented with complaints of hoarseness. Examination of the right partial hemilaryngectomy, showed a mucosa-covered, fleshy 2 × 1.5 × 1 cm mass in the supraglottic area of larynx. This lesion had histological characteristics of a pleomorphic adenoma, and this was confirmed by immunohistochemical expression of cytokeratin, S-100 protein, GFAP and vimentin. Their histopathological identification is, however, not always straightforward; immunohistochemistry can contribute significantly to the formulation of a definitive diagnosis and to the realization of an appropriate follow-up.

Keywords: Pleomorphic adenoma, Larynx, Immunohistochemistry

CALCIFYING EPITHELIAL ODONTOGENIC TUMOR (PINDBORG’S TUMOR): A CASE REPORT
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Calcifying epithelial odontogenic tumor (CEOT) is a rare benign neoplasm and it has been described by pathologist Jens Jorgen Pindborg in 1955. World Health Organization (WHO) in 2005 classified it as a benign odontogenic tumor, which include odontogenic epithelium with mature, fibrous stroma without odontogenic ectomesenchyme. It is a locally aggressive, painless and slow growing tumor and accounts for less than 1% of all odontogenic tumors. CEOT has high rate of recurrence and generally affects the maxillary posterior region. It occurs between 2nd and 6th decade of life without gender predication. It is detected by clinical, radiographic and histopathological examination. In general they are associated with an impacted tooth. In this paper we present histopathological and radiological features of a giant CEOT in a 42-year-old man. Therefore we aimed to investigate the surgical managements of these tumors.

Keywords: Odontogenic tumors, histopathology, calcifying epithelial odontogenic tumor, Pindborg tumor

UNICYSTIC AMELOBLASTOMA WITH DIVERSE MURAL PROLIFERATION: A CASE REPORT
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Unicystic ameloblastoma is a benign odontogenic neoplasm which includes several clinic-radiological and histological types. Here we are presenting a case of unicystic ameloblastoma in a 12-year-old boy who complained of swelling on the right mandibular molar region. Radiographic examination revealed a well defined multilocular radiolucent lesion around second molar tooth mimicking dentigerous cyst which was extend to vestibular part of first molar. Following incisional biopsy, a diagnosis of unicystic ameloblastoma was made and marsupialisation was performed for reduced the lesion size. The lesion was totally enucleated 15 months after marsupialisation. Histopathological examination of the enucleation specimen exhibited a unicystic ameloblastoma of luminal, intraluminal, and mural type. Intraluminal proliferation was of plexiform pattern and mural proliferation showed unusual histopathological findings, which revealed follicular, acanthomatous areas coexisted with plexiform areas. 6 months follow up till to date has not revealed any signs of recurrence.

Keywords: unicystic ameloblastoma, mural proliferation, diverse histology

WHAT IS THE MEANING OF FOCUS SCORE=1 IN SJÖGREN’S SYNDROME? Leyla Haryullah1, Fulya Çaka-Uzun2, Demet Eti1, Neşe Ekinci1, Emel Civas1, Mustafa Özmen2, Gercen Can1, 1Department of Pathology, İzmir Katip Çelebi University Ataturk Training and Research Hospital,
Objective: Sjögren’s Syndrome (SS) is a systemic, multi-organ, autoimmune disease with an incidence of 4/100,000, predominantly affecting women. Minor salivary gland biopsy has been long considered as the gold standard supportive for SS. Our study aims to demonstrate whether there is a significant difference between histologic focus score (FS)≥1 and FS>1.

Study Design: Biopsies of 99 patients who were evaluated according to the American-European Consensus Group 2002 criteria (AECGC) at our institution’s Rheumatology clinic between 2010 and 2012 were reviewed retrospectively.

Results: 91.9% of our patients were women. Two patients had inadequate samples for focus scoring. Out of 97 patients, 5 (5.15%) had FS≥1 and 32 (32.98%) FS>1. Chi-Square analyses showed a significant correlation between FS≥1 and clinical presence of SS (p<0.004).

Conclusions: FS≥1 was accepted, followed and treated as SS depending on AECGC.

Keywords: Sjögren’s Syndrome, focus score

AN UNSUAL LOCATION OF INTRAORAL HEMANGIOMA: A CASE REPORT Esma Çoşkun1, Selen Adıoğlu1, Alper Aktay1, Göknür Topaloğlu1, Ömer Günhan2, Ayça Dere1, 1Department of Oral and Maxillofacial Surgery, Hacettepe University, Ankara, Turkey; 2Department of Pathology, Gata University, Ankara, Turkey

Hemangioma can be defined as a benign tumor characterized microscopically by proliferation of blood vessels. It is mostly seen in the head and neck region and rarely in the oral cavity. Hemangiomas are histologically classified into capillary and cavernous forms. There was no relevant medical history and no predisposing factors of hemangioma like hormonal changes, infection or trauma. So Masson’s hemangioma was also considered in differential diagnosis. In this case, we present a 50 years old male patient had an asymptomatic red-purple lobulated lesion with well defined margins, localized on the right side of buccal mucosa, on the superior of the occlusal plane and the posterior of parotid duct, at the level of edentulous area (no sign of trauma). The lesion is finally confirmed as cavernous hemangioma histopathologically.

Keywords: nontraumatic region, lobular, cavernous, hemangioma

ORAL LICHENOID LESIONS RELATED TO DRUGS: REVIEW OF CLINICOPATHOLOGICAL FEATURES AND DIFFERENTIAL DIAGNOSIS Emre Barış1, Burcu Sengüven1, Tamer Tüzün2, Sibel Elfı Gültakin1, 1Department of Oral Pathology, Gazı University Faculty of Dentistry, Ankara, Turkey; 2Department of Pedodontics, Karadeniz Technical University Faculty of Dentistry, Trabzon, Turkey

Objective: Oral lichenoid lesion is termed as a condition of the oral cavity having an identifiable etiology. A number of drugs have been described as a causative factor of those reactive lesions. The aim of this study is to conduct systematic review on the role of causative drugs in oral lichenoid lesions (OLLD) and the clinic-pathological features which still has uncertainty in diagnosis.

Study Design: Bibliographic searches were performed to identify articles in PubMed® electronic databases from 1993 to 2013.

Results: OLLD’s were detected frequently in patients with a history of zidovudine and imatinib mesylate medication. OLLD mostly occurred on buccal mucosa (42.37%). The most preferable treatment modality is withdrawal of the drugs and topical steroid regimen. Thirty OLLD cases were confirmed by biopsies which were characterized diffuse inflammatory infiltrate through the deep side the lamina propria.

Conclusions: Medical history and histological features are the two basic criteria for the differential diagnosis of OLLD.

Keywords: Oral Lichenoid Lesions, Lichenoid Drug Allergy, Oral Lichenoid Drug Reaction, Treatment

MINOR SALIVARY GLAND NEOPLASMS OF THE ORAL CAVITY: OUR HOSPITAL EXPERIENCE OF 17 CASES Emel Civaş1, Fulya Çakalagaoglu1, Demo Etİ1, Nesê Ekinç1, Leyla Hayrullah1, Seçil Arslanoğlu2, 1Department of Pathology, İzmir Katip Celebi University Ataturk Training and Research Hospital, İzmir, Turkey; 2Department of Ortohinolaryngology, İzmir Katip Celebi University Ataturk Training and Research Hospital, İzmir, Turkey

Introduction: Minor salivary gland neoplasms (MSGNs) are unusual, accounting for only 15-20% of all salivary gland tumors. The commonest site of MSGNs of the head and neck is the oral cavity. Pleomorphic adenoma is the most common benign neoplasm and mucoepidermoid carcinoma is the most common malignancy. The aims of this study is to describe our experience of MSGNs in the oral cavity seen over last 5years.

Study Design: Seventeen salivary gland tumors located in the oral cavity have been diagnosed at our institution between 2007-13.

Results: 64% of the cases (11/17) were females and 35.3% (6/17) were males. Mean age of the patients were 40. 52.9% of the cases were malignant while 47.1% were benign.

Conclusions: 47% of the cases were pleomorphic adenoma, 29.5% were mucoepidermoid carcinoma, 23.5% were adeno cystic carcinoma. Palate was the most common site.

Keywords: salivary gland tumors, oral cavity

SUBLINGUAL LIPOMA: CASE REPORT Fulya Çakalagaoglu1, Leyla Hayrullah1, Demo Etİ1, Seyran Yiğit1, Emel Civaş1, Seçil Arslanoğlu2, 1Department of Pathology, İzmir Katip Celebi University Ataturk Training and Research Hospital, İzmir, Turkey; 2Department of Ortohinolaryngology, İzmir Katip Celebi University Ataturk Training and Research Hospital, İzmir, Turkey

Introduction: Lipomas, despite being the most common mesenchymal tumors of the trunk and extremities, are rarely encountered in the oral cavity. They comprise 1% to 4% of...
all the benign oral lesions. They are common in the buccal mucosa, tongue, and palate, but only 6% to 10% are sublingual.

**Case Presentation:** A 59-year-old female patient was referred to our institution for a sublingual swelling with a duration of 8 years and an accelerated growth during the last year. Complete excision was performed with a prediagnosis of ranula. Macroscopically the 3.8 × 2.5 × 1-cm tumor was well-circumscribed, encapsulated with a homogeneous, yellow cut surface. Microscopy provided the diagnosis of a classic lipoma consisting of uniform mature lipocytes with eccentric nuclei.

**Discussion:** Histologically oral lipomas may be classified as classic/atypical/pleomorphic/spindle cell/salivary gland lipoma, angiolipoma, intramuscular lipoma or fibrolipoma. Secondary changes, atrophy or intramuscular location should be assessed meticulously in order not to be confused with liposarcoma.

**Keywords:** Sublingual lipoma, classic lipoma

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**INVESTIGATION OF EBSTEIN-BARR VIRUS AND HUMAN PAPILLOMA VIRUS IN TURKISH PATIENTS WITH NASOPHARYNGEAL CARCINOMA USING IN-SITU HYBRIDISATION**

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**Objective:** Nasopharyngeal carcinoma (NPC) is associated with Epstein-Barr virus. Human papilloma virus (HPV) was also detected in a proportion of NPC cases. In this prospective study, we analyze the frequency of EBV and HPV infection family 16 in 82 patients with NPC.

**Study Design:** A total of 82 from two medical centers were evaluated for EBV and HPV. We used in situ hybridization to show EBV and HPV status on automatic platform.

**Results:** 74 of 82 NPC (90.2%) were EBV positive and 8 were negative. The highest rate of EBV positivity was shown in WHO type 3 (undifferentiated) NPC which were 65 of 68 (95.6%) cases. 4 of 82 NPC contained HPV and three of them have also positive for EBV. One of the type 2 (nonkeratinizing) was HPV positive and EBV negative.

**Conclusions:** Our data revealed that EBV is closely associated with NPC in Turkey. Unlike the frequent HPV positivity in NPC in USA literature, we found lower rates.

**Keywords:** nasopharyngeal carcinoma, EBV, HPV

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**CLEAR CELL ODONTOGENIC CARCINOMA, THREE CASES: CLINICAL, RADIOGRAPHIC AND MOLECULAR FEATURES OF THIS RARE ODONTOGENIC TUMOR**

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**Background:** Clear cell odontogenic carcinoma (CCOC) is a rare odontogenic tumor that has a female predilection, most commonly occurring in the mandible, with a peak incidence in the sixth decade. It is characterized by locally aggressive behavior and has the potential to metastasize. Approximately 84 cases have been reported in the English literature.

**Methods:** We present three cases demonstrating the classic microscopic features of clear cell odontogenic carcinoma. All three cases presented as a large radiolucency in the mandible.
INVESTIGATION OF POLYMORPHISMS IN DNA/HHV-8 ASSOCIATED WITH THE RISK OF KS

Tania Regina Tozetto Mendoza1, Laura M. Sumita1, Roberto Ribeiro1, Sideny Lima1, Maria Cristina Domingues Fink1, Marli De Paula Esteveyn1, Silvia Lima1, Cynthia L.M. Canto2, Lucy S. Vilas Boas1, Camila Malta Romano1, Paulo Henrique Braz Silva3, Claudio Sérgio Pannuti1, 1Laboratório de Virologia - Instituto de Medicina Tropical de São Paulo; 2Departamento de Moléstias Infecciosas e Parasitárias - HCFMUSP; 1Laboratório de Virologia - Instituto de Medicina Tropical de São Paulo; 3Faculdade de Odontologia — USP; 4Faculdade de Medicina da Universidade de São Paulo

Objective: Single nucleotide polymorphisms (SNPs) detection in conserved regions such as ORFK12-DNA/HHV-8 sequence can suggest the possibility of altered microRNA production and consequently it might reflect in cellular and viral gene expression control.

Study Design: Therefore, this study aimed to investigate polymorphisms in HHV-8/ORFK12 sequences obtained from a HIV group of patients without Kaposi’s sarcoma (KS), and to compare them with those of the control group with KS.

Results: We identified forty-two A/C, C and B subtypes of K12/HHV-8: 26.4 % (28/106) in cryopreserved saliva from group without KS and 41.2 % (14/34) in cryopreserved blood from control group. We found 6/59 polymorphic sites in miR12 encoding regions between the 117417nt-118055nt positions (U75698). Of these SNPs, few were detected in the group without KS (33%).

Conclusions: The detection and description of these SNPs may be useful as a prognostic tool for KS, since they are present in coding regions of microRNA associated with tumorigenesis.

Keywords: HHV-8, Kaposi sarcoma, SNPs, saliva

DIVERSITY OF C SUBGENOTYPE OF HHV-8 FOUND IN THE SALIVA OF HHV-INFECTED INDIVIDUALS WITHOUT KS UNDER THE USE OF HAART IN BRAZIL

Tania Regina Tozetto Mendoza1, Adriana F. Tateno1, Felix Drexler2, Juan Diego Rojas4, Laura M. Sumita1, Wilton S. Freire1, Karim Yaqub Ibrahim2, Ligia Pierro3, Vanda Ueda Fick De Souza1, Camila M. Romano1, Paulo Henrique Braz Silva3, Claudio Sérgio Pannuti2, 1Laboratório de Virologia - Instituto de Medicina Tropical de São Paulo; 2Departamento de Moléstias Infecciosas e Parasitárias - HCFMUSP; 4Laboratório de Virologia - Instituto de Medicina Tropical de São Paulo; 3Faculdade de Odontologia — USP; 4Faculdade de Medicina da Universidade de São Paulo

Objective: A significant proportion of squamous cell carcinomas of head and neck (HN-SCC) are related to human papillomavirus (HPV) infection and p16 overexpression. This subgroup proves better prognosis. We evaluated immunohistochemical p16 expression and staining patterns of carcinoma cells.

Study Design: We evaluated 35 HN-SCCs for p16 immunohistochemistry. The cases’ demographic findings were noted including age, gender, etc.

Results: 26 male, 9 female were seen with a mean age 57. 33 cases p16 immunostaining were positive.

Conclusions: Our data showed a great majority of the cases % 94.2 had p16 positivity. The findings were discussed with previous published reports.

Keywords: p16, squamous cell carcinomas

CARCINOMA EX PLEOMORPHIC ADENOMA OF THE PAROTID GLAND

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Carcinoma ex pleomorphic adenoma (CXPA) is a rare neoplasm arising from a primary or recurrent benign pleomorphic adenoma. It most frequently arises in parotid gland. However, it may also originate from the submandibular and minor salivary glands. A 56-year-old woman presented with a recurrent mass on parotid side. The mass had been first noticed 28 years before and excised twice (28 and 22 years ago). She described a recurrent mass with rapid increase in size for the last few months. Surgical excision was performed. On histologic examination the lesion composed of glands with myoepithelial cells including central necrosis. In some areas pleomorphic cells in glandular arrangement with atypical mitosis and capsular invasion have been realized. The lesion diagnosed as CXPA. Although pleomorphic adenomas are common benign tumors of parotid gland malign transformations of these neoplasms have been rarely reported. Capsule invasion is an important prognostic factor for CXPA.

Keywords: Carcinoma ex pleomorphic adenoma, parotid gland

GIANT PAROTID PLEOMORPHIC ADENOMA: CASE REPORT AND LITERATURE REVIEW

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Pleomorphic adenomas are the most common benign salivary neoplasm which may affect major and minor salivary glands, however they have been known to undergo malignant transformation and known as carcinoma ex-pleomorphic adenoma. If
left untreated pleomorphic adenomas may continue to grow in size over a period of many years and have been reported in literature as giant pleomorphic adenomas. As they grow in size, their management becomes more complex given the nature of the anatomy of the region and the risk surgical intervention poses on such structures. We present a 40 year old female patient who was diagnosed with a giant pleomorphic adenoma weighing 2.5 kg and had a dimension of in size of 12 × 15 × 20 cm which was excised with minimum morbidity. Management of such lesions including a literature review is presented.

**Keywords:** Giant pleomorphic adenomas, salivary neoplasm, management

**MAJOR RECURRENT APHTHOUS ULCERATIONS: CASE REPORT** Damla Tuncer Budanur1, Merve Şirin1, Elif Sepel1, Meral Ünür2, İstanbul University, Faculty of Dentistry, Department of Pedodontics, İstanbul, Turkey; 2Istanbul University, Faculty of Dentistry, Department of Oral & Maxillofacial Surgery, İstanbul, Turkey

**Objective:** The aim of this case report is to present major recurrent aphthous ulcerations and therapeutic measures in a 9-year-old girl.

**Study Design:** The patient manifested the signs of major RAU: painful, big and deep ulcers present on the inner surface of the cheeks, fever, dysphagia and lasting over 6 weeks. Iron deficiency, emotional stress and local trauma are suggested as possible etiological factors for major RAU in this patient. History of the patient revealed ulcer development after cheek-bite due to dental anesthesia. Clinical examination revealed a persistent cheek biting during mouth closure.

**Results:** To prevent the cheek biting habit, the patient was told to use a Pre-orthodontic trainer appliance. Combination therapy included corticosteroid, analgesic, antibiotic drugs, epithelization agents and mouthrinses to treat major RAU.

**Conclusions:** The therapeutic method used in this case provided healing of ulcers and decreased the rate of recurrence in a long-time.

**Keywords:** Major Recurrent Aphthous Ulcerations, Cheek Biting, Aphthous Ulcerations

**AMYLOIDOSIS OF THE TONGUE: AS THE FIRST CLINICAL PRESENTATION OF MULTIPLE MYELOMA** Zeynep Beyramoğlu, Mehmet Coşkun Özşarac, Zehra Bozdag, Kemal Bakır, Gaziantep Tip Fakültesi, Gaziantep Medicine Faculty, Department of Pathology, Gaziantep, Turkey.

Amyloid is a pathologic proteinaceous substance deposited between cells in various tissues in a variety of clinical conditions. It can affect any site in the head and neck region including the floor of the mouth and tethered to the hyoid bone. The lesion was completely excised via a transoral approach with optimum cosmetic and functional results. Histopathological assessment confirmed the mass to be a dermoid cyst.

**Keywords:** Amyloidosis tongue multiple myeloma

**INTRA ORAL EXCISION OF A DERMOID CYST FROM THE FLOOR OF THE MOUTH** Shahme Ahamed Farook, Beverly Buahin, Zaman Mirza, Viney Vinay, Lake Cascarin, Department of Oral and Maxillofacial Surgery, Northwick Park Hospital, London, UK

Dermoid cysts can be found throughout the body. However only 0.01% are encountered within the oral cavity/floor of mouth. Excision of these lesions within the head and neck region presents a challenge. Large cystic lesions are excised extra orally leading to poor long term cosmetic and functional outcome. We present a case of a large dermoid cyst within the floor of the mouth which was managed by complete excision through a muscle splitting intra oral technique which produced an excellent outcome. We present the case of a 16-year-old female patient who presented with a six month history of an enlarging lump in the submental region. Ultrasound and magnetic resonance imaging (MRI) demonstrated a large, well-circumscribed mass within the floor of the mouth and tethered to the hyoid bone. The lesion was completely excised via a transoral approach with optimum cosmetic and functional results. Histopathological assessment confirmed the mass to be a dermoid cyst.

**Keywords:** Dermoid cyst. Muscle splitting, floor of mouth, submental

**A 4-YEAR-OLD BOY WITH PERIPHERAL GIANT CELL REPARATIVE GRANULOMA** Ali Kurt1, Ikbnur Çalıık1, Zülküf Kaya1, Fadime F. Güven2, 1Patoloji uzmanı, Eğitim ve Araştırmı Hastanesi, Erzurum; 2KBB uzmanı, Palandöken Devlet Hastanesi Yönetici, Erzurum; 3Radyoloji uzmanı, Eğitim ve Araştırma Hastanesi, Erzurum

Peripheral giant cell reparative granuloma (GCRG) is often seen on the front side of the mandible and maxilla. A 4-year-old boy whose oral hygiene was bad was admitted because of a mass which was 2 cm in diameter on the right side of the mandible. Computed tomography scan shows a hypodense lesion in the right part of the mandible which is lytic, expansile, and causing significant thinning in the anterior cortex and containing hyperdense foci, suggesting calcification. The mass in the mandible was totally removed. Pathologically, 3 materials were examined, the largest was 3 × 2 × 1.5-cm. GCRG was diagnosed. Microscopically, the cells had eosinophilic cytoplasm and large vesicular nuclei. Hyperparathyroidism was not detected. Reactive T cells have not been established. GCRG primary evaluated. The lesion did not recur during the last 3 years. Our patient was presented because GCRG is rarely seen in males and 4-year-olds.

**Keywords:** Giant cell reparative granuloma, mandible, 4 years old

**IS THERE A CORRELATION BETWEEN THE HISTOPATHOLOGICAL FINDINGS AND PATIENT’S AGE, CYST LOCALISATION AND SIZE IN RADICULAR CYSTS?** Ali Kurt1, Gelengül Urvasszoğlu1, Sevlay Akşit Özmen1, Ebru Şener1, Hital Balta1, İkbnur Çalıık1, 1Patoloji Uzmanı, Boğaziçi Eğitim ve Araştırma Hastanesi, Erzurum; 2Cente Cerrahisi Uzmanı, Ağz ve Diş Sağlığı Merkezi, Erzurum

**Objective:** The pathological findings of 49 patients who were prediagnosed and operated as radicular.

**Study Design:** When the indicators compared with each other, any correlation couldn’t be found. Between cyst formation and histopathological findings and age, sex and localization.
Cysts were compared with regard to age, location, the size of the cyst and histopathological findings.

**Results:** The patients were 31 women and 18 men and the mean age was 35. Cyst diameter in 31 of the patients were between 10.1 and 20 millimeters.

The chi-square test was applied to compare the measures.

**Conclusions:** Any correlation couldn’t be found by the re-evaluation of the radicular cyst materials between the patient’s age, sex, cyst localization and size and as histopathological formation like epithelium layer thickness, fibrous tissue formation, chronic or mixed type inflammation, the cholesterol slots and calcium deposition.

**Keywords:** radicular cysts, histopathology, localisation, diameter

**LIGNEOUS GINGIVITIS ASSOCIATED WITH PLASMINOGEN DEFICIENCY** Meral Unur1, Kivanç Bektaş Kayhan1, Ceren Damla Özak1, Gizem Karagöz1, Bora Bașarar1, Tiraje Çelkan2, Department of Oral Surgery, Istanbul University Faculty of Dentistry, Istanbul, Turkey;

2Department of Pediatric Hematology and Oncology, Istanbul University Cerrahpaşa Medical Faculty, Istanbul, Turkey;

3Department of Otorhinolaryngology, Istanbul University Istanbul Medical Faculty, Istanbul, Turkey

Ligneous gingivitis is a rare periodontal disorder closely associated with ligneous conjunctivitis and plasminogen deficiency. Here we present two siblings whose parents had consanguineous marriage. Gingival overgrowth has been recorded in both cases and there were floating teeth within this growth along with widespread bone destruction. One of the siblings could not have the approval for general anestesia due to her hydrocephalia. The other sibling was operated under general anestesia with the support of replacement of plasminogen. After two operations all gingival tissue which was overgrown was removed along with the teeth. A denture was fabricated for her and we did not see any recurrences within first 6 months. In her follow up period only minor growths were evaluated which did not prevent her to use the dentures. Although many treatment options including corticosteroids were proposed by authors up to date there is no certain data about the optimal treatment strategy.

**Keywords:** plasminogen deficiency, ligneous gingivitis, dental treatment

**AMELOBLASTOMA OF THE MAXILLARY SINUS** Sizakele Pride Ngwenya1, Monica Kotu2, 1Department of Oral Pathology, University of Witwatersrand, Johannesburg, South Africa; 2Department of Otorhinolaryngology, University of Limpopo, Pretoria, South Africa

Ameloblastoma (AM) is a slow growing, locally aggressive, benign tumour of the jaws with a high tendency to recur. Primary ameloblastomas of the sinonasal tract, without connection to the jaws are extremely rare, with only a few cases reported in literature. Two male patients aged 32 and 20 years presented with progressively enlarging swelling of the face and complained of chronic sinusitis and nasal obstruction. Radiological examination revealed multicellular lesions in the right and left maxillary sinus respectively. Microscopic examination of both lesions confirmed a diagnosis of ameloblastoma. Although ameloblastomas have been demonstrated arising directly from the lining mucosa of the maxillary sinus, the majority of cases reported are secondary, following extension into the nasal and paranasal cavities from the maxilla. The unusual presentation of these two cases highlights the importance of ameloblastoma as a differential diagnosis for mass lesions involving the maxillary sinus.

**Keywords:** Ameloblastoma, maxillary sinus, sinonasal tract

**DEPLETION OF DENDRITIC CELLS AND LACK OF EXPRESSION OF MIP3alpha IN ORAL HAIRY LEUKOPLAKIA** Michelle Palmieri1, Marina Gallottini1, Alain Doglio2, Paulo Henrique Braz Silva3, 1University of São Paulo, School of Dentistry, Department of Oral Pathology, São Paulo, Brazil; 2University of Nice Sophia Antipolis, School of Medicine, Laboratory of Virology, Nice, France; 3University of São Paulo, Institute of Tropical Medicine, Laboratory of Virology, São Paulo, Brazil

**Objective:** Oral hairy leukoplakia is a benign lesion caused by Epstein-Barr virus (EBV) replication in the epithelium of the lateral borders of the tongue. It is exclusively associated with immunossupression, especially in HIV positive patients. Dendritic cells are related to local immunosurveillance and virus tolerance. MIP3α is a potent chemokine for recruiting immature dendritic cells.

**Study Design:** We investigated the presence of dendritic cells (CD1a, CD207 and CD83) and expression of MIP3α in 15 oral hairy leukoplakia lesions by immunohistochemistry. All the lesions were diagnosed by EBV in-situ hybridization.

**Results:** In 14 lesions, we found a complete depletion of dendritic cells and lack of MIP3α expression. In only one lesion, did we find a few CD1a positive cells.

**Conclusions:** Patients with oral hairy leukoplakia showed a depletion of dendritic cells and lack of expression of MIP3α in the tongue epithelium.

**Keywords:** EBV, dendritic cells, oral hairy leukoplakia, MIP3alpha

**EVALUATION OF QUALITY OF LIFE IN PATIENTS WITH ORAL SQUAMOUS CELL CARCINOMA (OSCC) IN IRAN** Donia Sadri1, Kaezem Zendedar2, Yasamin Bahraminejad3, 1Oral Pathology Dept, Islamic Azad University, Dental Branch, Tehran, Iran; 2Cancer Research Center, Iran Cancer Institute, Tehran University of Medical sciences; 3Private Dentist, Tehran, Iran

**Objective:** Our aim was to evaluate the quality of life (QOL) in patients with (OSCC) were treated at the Iran Cancer Institute form Jul 2011 to Sep 2013.

**Study Design:** Health related QOL was assessed by the UWQOL questionnaire and (EORTIC QOL-(30) and (H&N 35) that was translated in Persian. Data were analyzed by Mann-Whitney and Kruskal- Wallis Tests.

**Results:** 100 patients who met the study’s inclusion criteria completed the questionnaire. QOL was found to be associated with patient age and sex, (<65 years and Male obtaining higher scores) (p<0.05), (p=0.01) respectively. Early stages obtained better scores than advanced ones. (P<0.05). Patients with tongue SCC recorded lower scores in speaking and swallowing (p=0.004), (0.005).Conventional surgery recorded higher scores in swallowing and feeling ill. (P=0.05), (P=0.007).

**Conclusions:** It seems that type of treatment and location of OSCC had the most significant power on the patients’ perceived postoperative quality of life.

**Keywords:** Oral squamous cell carcinoma, Quality of life, Surgery, Radiotherapy
PREVALENCE OF ORAL MUCOSAL MALIGNANT AND NON-MALIGNANT LESIONS IN AN IRANIAN POPULATION: A TEN-YEAR SURVEY  Jahanfar Jahanbani, Fatemeh Shaltsavari, Donia Sadri, Shila Ghasemi Moridani, Oral Pathology Dept. Dental Branch Islamic Azad University, Tehran, Iran

Objective: This study aimed to determine the frequency of oral mucosal malignant and non-malignant lesions and their related factors.

Study Design: This descriptive study was conducted based on the existing data in archives of two pathology referral centers in Tehran.

Results: Among 59273 files, 976 patients (1.56%) had oral mucosal lesions, and the most prevalent one was epithelial lesions (89.4%). The most prevalent mucosal lesion was in epithelial group (89.4%) and Squamous Cell Carcinoma (53%) was the most prevalent malignant epithelial entity. The most common location of oral mucosal lesions was lip (27.8%). Mean age of the patients was 44 ± 3 years. There was no correlation between sex, age and oral mucosal lesions (P<0.9).

Conclusions: The most prevalent mucosal lesion was Squamous Cell Carcinoma, which is a malignant tumor with epithelial origin and its early diagnosis is necessary.

Keywords: oral mucosa, cancer, oral, neoplasm, soft tissue

CLEAR CELL ODONTOGENIC CARCINOMA OF MANDIBLE: A RARE CASE REPORT  Jahanfar Jahanbani, Shila Ghasemi Moridani, Farzad Rezaei, Oral Pathology Dept. Dental Branch Islamic Azad University, Tehran, Iran; Oral and Maxillofacial Radiology Dept. Dental Branch Islamic Azad University, Tehran, Iran

Objective: A rare case of clear cell odontogenic carcinoma (CCOC) is reported.

Study Design: A 40-year-old man with swelling of left mandibular body and ascending ramus visited a dentist, and the patient’s third molar was extracted with initial diagnosis of infection and abscess. With continuous swelling and pain, the patient was referred to the oral and maxillofacial surgeon. In the panoramic view a multilocular radiolucent lesion with well defined foraminal corticate borders was evident. The lesion was removed partially and CCOC histopathologic features were observed in the microscopic view.

Results: Immunohistochemically the tumor cells were positive for Pancytokeratin and Epithelial Membrane Antigen and negative for Vimentin, Smooth Muscle Actin, HMB-45 and Desmin. S-100 staining was weakly positive. One-year follow up showed no sign of recurrence.

Conclusions: Due to histological similarities of this lesion with other clear cell lesions, differentiation from odontogenic tumors, salivary gland tumors and metastatic tumors, containing clear cells must be considered.

Keywords: Clear Cell Odontogenic Carcinoma, Odontogenic tumors, Clear Cells, Mandible

PRESENCE OF CANDIDA ALBICANS IN PATIENTS FROM MOTHER TERESA HOSPITAL, TIRANA  Mimoza Canga, Brumilda Sabashi, Arjola Menushaj, Vito Malagnino, University of Vlora, Department of Public Health Albania, Vlora, Albania

Objective: Identifying presence and Candida Albicans risk factors by microscope and culturing for patients at Mother Teresa Hospital.

Study Design: There were 1,890 patients examined in Mother Teresa Hospital during 2011—2013. Their samples were cultivated in chloramphenicol Sabouraud environment and by microscope.

Results: During 2011—2013 we examined 1,890 samples; 1,176 (62.2%) males, 714 (37.8%) females, 810 (42.9%) resulted positive for candida, 1,080 (57.1%) negative. 810 samples examined in Sabouraud terrain 760 (94%) had Candida growth; 50 (6.2%) had no Candida growth. 0-5 year had 220 (11.6%) cases, 40-65 had 789 (41.8%), over 65 had 590 (31.3%). 120 patients with HIV were positive for Candida.

Conclusions: More infected were males, 40-65 years old, small children and HIV patients.

Keywords: Candida albicans, microscopic examinations, infected

ORAL GIANT CELL ANGIOFIBROMA: A CASE REPORT  Ajura Abdul Jalil, Lau Shin Hin, Stomatolgy Unit, Cancer Research Centre, Institute for Medical Research, Malaysia

Giant cell angiofibroma is a benign mesenchymal soft tissue tumour which commonly occurs in the orbital region, however is rare in the oral cavity. Microscopically, it is a well-circumscribed nonencapsulated mass containing multinucleate giant cells and many vascular spaces. It resembles solitary fibrous tumour (SFT) and may be part of the spectrum of SFT. Other histological differential diagnoses include giant cell fibroblastoma and dermatofibrosarcoma protuberans. As yet, 3 cases of giant cell angiofibroma occurring in the oral cavity have been reported in the English-language literature. We present a case of oral giant cell angiofibroma on the gingival area of lower left molars region in a 63 year old male with the multinucleate giant cells immunopositive with CD34.

Keywords: giant cell angiofibroma, oral cavity, CD34

PREVALENCE AND CORRELATION OF ORAL MALIGNANT AND PREMALIGNANT MUCOSAL LESIONS IN MALE SMOKERS AND NONSMOKERS  Parisa Faisal, Fatemeh Ahmadi Motamayel, Farzad Rezaei, Jalal Poorolajal, Parisa Faisal, Department of Oral Medicine, School of Dentistry, Tabriz University of Medical Sciences, Tabriz, Iran; Fatemeh Ahmadi Motamayel, D, Dental Research Center, Department of Oral Medicine, School of Dentistry, Hamadan University of Medical Sciences, Hamadan, Iran; Rezaei F, Department of Oral and Maxillofacial Surgery, School of Dentistry, Hamadan University of Medical Sciences; Poorolajal J, Research Center for Health Sciences and Department of Epidemiology&Biostatistics, School of Public Health, Hamadan University of Medical Sciences, Hamadan, Iran

Objective: Tobacco smoking is one of the most important risk factors for the development of oral mucosal lesions such as periodontitis, leukoplakia. Controversy exists were in the literature. The aim of this study was to evaluate oral Squamous cell carcinoma and leukoplakia in male smokers compared with nonsmokers in Hamadan.

Study Design: A total of 516 male participants were assessed, 258 of whom were smokers and 258 of whom were healthy nonsmokers with an age range 20-50 years. The prevalence of lesions was evaluated by clinical observation (with light, mouth mirror, gauze and probe) and biopsy.
Results: smokers had significantly this lesions more than nonsmokers. Malignant and premalignant lesions were found in a higher age range.

Conclusions: Dental services need to implement care and health education for smokers to promote health and should be examined carefully, especially in smokers, even if the patients did not attend with the complaint of oral lesions.

Keywords: Prevalence, Smoking, Lesion, Mouth, Squamous cell carcinoma, leukoplakia

CHRONIC SUPPURATIVE OSTEOMYELITIS ASSOCIATED WITH BENIGN FIBRO-OSSSEOUS LESION
Eduardo Da Campo Junqueira, Eduardo Pereira Guimarães, Marina Lara De Carli, João Adolfo, Costa Hanemann, Alessandro Antonio Costa Pereira, School of Dentistry, Alfenas Federal University, Alfenas. Minas Gerais, Brazil

Objective: A 48-year-old black female patient, who were diagnosed with florid cemento-osseous dysplasia in 2009, showed a painful drainage point with purulent material located on posterior mandibular alveolar ridge, and firm swelling. Patient reported use of RPD since 2010. Her medical history revealed hypertension. Examination showed painful submandibular lymph nodes. Radiographic examination revealed multiple radiopaque lesions bilaterally located on the mandible from anterior region to molar region. A provisional diagnosis of suppurative osteomyelitis associated with florid cemento-osseous dysplasia was rendered.

Study Design: The patient was given amoxicillin (500mg, three times/day) and metronidazole (400mg, three times/day) for 7 days and subsequently underwent excision of the bone sequestrum.

Results: The histopathological analysis revealed nonviable bone and a mixed inflammatory infiltrate of lymphocytes and plasma cells, confirming the clinical diagnosis.

Conclusions: The patient is still under follow-up, and, two years after the beginning of treatment, shows satisfactory healing of the operated area and no signs of recurrence.

Keywords: Chronic suppurative osteomyelitis, benign fibro-osseous lesion, florid cemento-osseous dysplasia

HISTOPATHOLOGICAL SPECTRUM OF BONE LESIONS ASSOCIATED WITH DENTAL IMPLANT FAILURE - OSTEOMYELITIS AND BEYOND Anna Schnaiderman Shapiro, Amos Buchner, Dan Dayan, Marilena Vered, School of Dental Medicine, Tel Aviv University, Israel

Post-implant placement complications, either early or late, are usually localized infectious/inflammatory processes and are treated accordingly. If the healing process does not occur within a reasonable timeframe, the possibility of a pathologic process beyond infection/inflammation should be suspected. We present five cases of mandibular dental implant failure (three localized and two involving a large part of the mandible) that clinically, radiologically and histopathologically appeared to fall within the range of inflammatory processes. The range of histopathological findings included acute osteomyelitis and chronic osteomyelitis with features of a fibroosseous-like lesion that exhibited occasional rimming of atypical osteoblasts and areas of acute inflammation. In one case, an osteogenic sarcoma was obscured by a florid inflammatory process, and accurate diagnosis was achieved only after a series of biopsies. We conclude that additional biopsies are mandatory if the histopathological features are not compatible with the clinical signs and symptoms, especially in extensive lesions.

Keywords: Dental implant, failure, osteomyelitis, osteogenic sarcoma

NEOPLASTIC SALIVARY GLAND LESIONS: ANALYSIS OF 135 CASES FROM LAGOS STATE UNIVERSITY TEACHING HOSPITAL, IGEJA, LAGOS, NIGERIA
Kehinde Emmanuel Adebiyi, Mubarak Mobolade Emmanuel, Department of Oral Pathology & Oral Medicine, Faculty of Dentistry, Lagos State University College of Medicine, Ikeja, Lagos, Nigeria

Objective: This study was carried out to document the prevalence and pattern of salivary gland neoplasia in Lagos State University Teaching Hospital and to provide data for comparison with other epidemiological findings in different geographic locations.

Study Design: This was a retrospective study of cases of neoplastic salivary gland lesions seen from 2001 to 2013. 135 cases were extracted and data were analyzed using descriptive statistics.

Results: 58 (43%) were found in males and 77 (57%) in females. The palate was the most common site (45 cases, 33.3%) and the mean age at diagnosis was 41.1 ± 16.7 years. Pleomorphic adenoma was the most common salivary gland tumour (67 cases, 49.6%), followed by adenoid cystic carcinoma (ACC; 27 cases, 20%).

Conclusions: Contrary to many other reports, the palate was the commonest site of occurrence in our series while ACC was the commonest malignant salivary gland tumour as opposed to many other Nigerian studies.

Keywords: Salivary gland lesions, Neoplastic, Analysis; Nigeria

MATURE CYSTIC TERATOMA OF THE PAROTID GLAND Aysim Ozogari1, Tulay Basak1, Feyzije Kabukcuoglu1, Canan Tanik1, Berna Ulu Coskun2, 1Department of Pathology, Sisli Hamidiye Etfal Teaching and Research Hospital, Istanbul, Turkey; 2Department of Otorhinolaryngology, Sisli Hamidiye Etfal Teaching and Research Hospital, Istanbul, Turkey

Mature cystic teratomas and dermoid cysts of the parotid gland are rare. Limited number of cases were reported. A case of parotid mature cystic teratoma is presented with a brief review of the literature. An 11-year-old male patient presented with a 1 year history of a slow-growing left parotid mass. Preoperative fine needle aspiration biopsies were nondiagnostic. The patient underwent left total parotidectomy. Macroscopic evaluation revealed a 3 cm cystic lesion filled with keratinous material within the parotid gland. Cyst was lined by keratinized squamous epithelium. The cyst wall contained sebaceous glands and other skin adnexal structures along with mature cartilaginous tissue. No immature tissue was found. Mature cystic teratomas should be included in the differential diagnosis of a cystic mass of the parotid gland. Since these lesions have equivocal clinical and radiological findings definitive diagnosis in these cases is generally based on the macroscopic and histopathological examination.
Keywords: parotid, teratoma, dermoid cyst

THE CLINICOPATHOLOGICAL CHALLENGES IN THE TREATMENT OF AMELOBLASTOMA IN THE MANDIBLE, A CASE REPORT AND REVIEW OF THE LITERATURE Alaa M. Shuaib1, Ali Abuhamtash2, 1Gazi University Faculty of Dentistry, Department of Oral Pathology Turkey; 2Ankara University Faculty of Dentistry, Department of Oral and Maxillofacial Surgery, Turkey

Ameloblastoma is the most common odontogenic jaw tumour, accounting for 1% of all cysts and tumours of the jaw and 11% of all odontogenic tumours. Clinically, it frequently manifests as a painless swelling, which can be accompanied by facial deformity, malocclusion and paresthesia of the affected area. We report a case of large follicular ameloblastoma in the mandible, demonstrating treatment modalities and post operative options.

Keywords: ameloblastoma, mandible, treatment

BENIGN CEMENTOBLASTOMA OF THE MANDIBLE: AN UNUSUAL CASE REPORT WITH CBCT FINDINGS Armanag Caliskan1, T. Berre Karos2, Mahmut Sumer2, A. Pınar Sumer1, Aydan Acikgoz1, Yurdanur Sallı3, 1Department of Dentomaxillofacial Radiology, Faculty of Dentistry, Ondokuz Mayıs University, Samsun, Turkey; 2Department of Oral and Maxillofacial Surgery, Faculty of Dentistry, Ondokuz Mayıs University, Samsun, Turkey; 3Department of Pathology, Faculty of Medicine, Ondokuz Mayıs University, Samsun, Turkey

Benign cementoblastoma which is also named true cementoma is a rare neoplasm that develops from odontogenic ectomesenchyme. It is characterized by a mineralized mass attached to the apex of the root produced by neoplastic cementoblasts. More than 75% arise in the mandible, with 90% arising in the molar and premolar region. It occurs most commonly in children and young adults and males are affected slightly more than females. Radiographically, the tumor is observed as a well defined radiopaque mass that is fused to a tooth root and is surrounded by a radiolucent rim. The treatment of the benign cementoblastoma consists of removal of the lesion and extraction of the affected tooth. This report presents an unusual case of benign cementoblastoma in a 31 year old female presenting as a densely mineralized mass seen at the apex of the impacted right mandibular canine tooth on radiographs.

Keywords: benign cementoblastoma, impacted tooth, odontogenic tumour

FIBROMATOSIS OF THE MANDIBLE: A CASE REPORT A. Pınar Sumer1, Mahmut Sumer2, Armanag Caliskan1, Omer Gunhan3, 1Department of Dentomaxillofacial Radiology, Faculty of Dentistry, Ondokuz Mayıs University, Samsun, Turkey; 2Department of Oral and Maxillofacial Surgery, Faculty of Dentistry, Ondokuz Mayıs University, Samsun, Turkey; 3Department of Pathology, Gülhane Military Medical Academy, Ankara, Turkey

Fibromatoses are rare neoplasms that develop from the tissue of the musculoaponeurotic system and are characterized by local aggressive behavior that is associated with a high-recurrence rate after surgery. The lesion most frequently occurs in children or young adults and it is more common in females than males. Fibromatosis of the head and neck is a firm, painless mass which may exhibit rapid or insidious growth. Destruction of adjacent bone may be observed on radiographs. The treatment of patients with fibromatosis consists of wide surgical excision. Radiation therapy sometimes has been used. This report describes a case of fibromatosis in a 20 year old female presenting as a firm, painless mass in the buccal side of the left mandibular lateral incisor with a radiolucency of adjacent bone on radiographs.

Keywords: fibromatosis, desmoid tumour, mandible

METASTASIS OF BREAST CANCER TO THE MANDIBLE: A CASE REPORT Hatice Boyacıoğlu, Gökçen Akçıçek, Nursel Akkaya, Leyla Berna Çağırak, Department of Dentomaxillofacial Radiology, Hacettepe University, Ankara, Turkey

Breast cancer is the most common malignancy among the female population around the world. It frequently metastasizes to various organs such as lung, liver, brain and bone. Breast cancer metastasis in jaw bones are very rare. The posterior areas of the jaws are more commonly affected, the mandible being favoured over the maxilla, and also lesions may be located in the periodontal ligament space. Radiographically, lesions are generally seen as polymorphous, ill-defined radiolucency. However, breast cancer metastasis sometimes may appear as an area of patchy sclerosis. We describe an unusual metastasis of breast cancer to the mandible with the irregular widening of periodontal ligament spaces.

Keywords: Mandible, metastasis, breast cancer

HIGH pRb/p16INK4a EXPRESSION IN ORAL AND OROPHARYNGEAL CANCER José Martín Núñez-Martínez1,2, Velia Ramírez-Amador2, Gabriela Anaya-Suav德拉2, Martin Granados-García1, Miriam Guido-Jiménez4, Alejandro García-Carrancá4, 1Doctorate in Biological and Health Sciences, Autonomous Metropolitan University-Xochimilco, Mexico City, Mexico; 2Health Care Department, Autonomous Metropolitan University-Xochimilco, Mexico City, Mexico; 3Head and Neck Department, National Cancer Institute, Mexico City, Mexico; 4Virus and Cancer Unit, National Cancer Institute, Biomedical Research Institute, National Autonomous University of Mexico, Mexico City, Mexico

Objective: To determine pRb/p16INK4a expression, and HPV frequency in oral and oropharyngeal cancer (OOC).

Study Design: Descriptive, cross-sectional observational study in OOC Mexican patients; two samples were obtained: one for histopathological and immunostaining analysis, and the other for HPV-DNA detection by PCR consensus primers. Immunostaining was assessed applying the intensity reactivity score (IRS). Chi2, Fisher’s and U-Mann-Whitney tests were used.

Results: Fifty patients (26/52% female) were included, median age was 64 (Q1-Q3: 56-70) years. A low HPV prevalence was identified (4%). Forty-nine (98%) of the samples showed pRb expression, 12 of them (24%) overexpressed the protein, the IRS mean value was 10.2. Forty-eight (96%) of the samples were p16 positive, 17 (34%) overexpressed it, IRS mean was 9.4. pRb positive, 12 of them (24%) overexpressed the protein, the IRS mean was 10.2. Forty-eight (96%) of the samples were p16 positive, 17 (34%) overexpressed it, IRS mean was 9.4. Cases with p16 overexpression showed significantly nuclear cytoplasmic staining (p=0.008). No association between p16 and pRb IRS was found (p=0.199).

Conclusions: OOC cases showed pRb/p16INK4a overexpression without association with clinical variables.
Keywords: p16, pRb, HPV

IS THE SAFE MARGIN ESSENTIAL FOR THE LICHEN PLANUS? Hosein Esilami, Khadijeh Abdul, Samira Mostafazaded, Ashraf Fakhrijo, Amirala Aghbali, Dental Faculty of Tabriz Medical Science, Tabriz, Iran

Objective: In this study evaluation of molecular changes Marker p53 in lichen planus lesions and safe margins around the lesion was performed.

Study Design: immunostaining of p53 performed for sections that Obtained from parafin blocks. Percentage of stained cells in the basal and Suprabasal layer, grading based on the degree of staining.

Results: The results of Wilcoxon test showed that levels of P53 expression are not equal between lichen planus and safe margine tissue.

Conclusions: Expression of p53 exist in both lichen planus and safe margin around the lesion. The reseon of lesions common recurrence may be Remain margins that have normal appearance lichen planus. So removing some of the normal tissue surrounding the is recommended for patients with lichen planus.

Keywords: lichen planus, Oncoprotein p53, premalignant lesions

DIFFUSE LARGE B-CELL LYMPHOMA OF ANTERIOR MAXILLA WHICH WAS MISDIAGNOSED AS A PERIPHERAL GIANT CELL GRANULOMA: A CASE REPORT Mehmet Emin Toprak1, Sara Samur Ergüven, Merve Çakır1, Mустafa Sancar Ataç1, Emre Barış2, Mustafa Gümüşök3, 1Department of Oral and Maxillofacial Surgery, Gazi University, Ankara, Turkey; 2Department of Oral and Maxillofacial Pathology, Gazi University, Ankara, Turkey; 3Department of Oral and Maxillofacial Radiology, Gazi University, Ankara, Turkey

Non-Hodgkin’s lymphomas detected primarily in the bone are quite rare, but among jaw lesions, they are more frequently present in the maxilla than in the mandible. There are no classical characteristic clinical features of lymphomas involving the jaw bones. Swelling, ulcer or discomfort may be present in the region of the lymphoma, or it may mimic a periapical pathology or a benign condition. We report a case of a diffuse large B-cell lymphoma of the anterior maxilla, in which the lesion was misdiagnosed as a peripheral giant cell granuloma in another clinic.

An incisional biopsy and immunohistochemistry were instru- mental for diagnosis. After finding no metastasis to other sites, the patient was treated with chemotherapy. The swelling regressed completely following the chemotherapy regimen, with no sign of recurrence observed over 2 years.

Keywords: diffuse large B-cell lymphoma, misdiagnosed, peripheral giant cell granuloma, anterior maxilla, chemotherapy

AN UNUSUAL CASE OF LARGE, DESTRUCTIVE STAFNE BONE CAVITY WITH CT FINDINGS Mahmut Sumer1, Aydan Acikgoz2, Canan Uzun2, Omer Gunhan3, 1Department of Oral and Maxillofacial Surgery, Faculty of Dentistry, Ondokuz Mayis University, Samsun, Turkey; 2Department of Oral and Dentomaxillofacial Radiology, Faculty of Dentistry, Ondokuz Mayis University, Samsun, Turkey; 3Department of Pathology, Gulhane Military Medicine Academy, Ankara, Turkey

Stafne bone cavity is an asymptomatic lingual bone depression of the lower jaw that usually diagnosed during routine radiographic examination. It is observed as a round or an ovoid-shaped well-defined homogenous radiolucent area that ranges in diameter from 1 to 3cm on radiographs and most commonly located in the angle of the mandible below the inferior alveolar canal. More cases have been reported in men than in women and in middle-aged and older adults with children rarely affected. The radiographic appearance and location of the stafne bone cavity are characteristic and easily identified. The diagnosis can be confirmed by computed tomography scans, magnetic resonance imaging or sialography. This report describes a case of stafne bone cavity in a 61 year old male asymptomatic patient, presenting as a radiolucency in the left mandibular body with loss of buccal and lingual cortical plates on three-dimensional CT scan.

Keywords: stafne bone cavity, computed tomography, mandible

NEW TECHNIQUE FOR THE TREATMENT OF ORO/FACIAL INFECTION, SWELLING (ABSCESS) Javad Bigdeli, Private Practice, Elmsford, NY

The goal of this clinical study is to present a new technique for the treatment of oro/facial swelling (abscess) for this purpose, to reducing patient pain, discomfort, anxiety, duration of the treatment, and at the same time reducing the cost of treatment. Most of these patients financially can not afford intravenous sedation or any kind of general anesthesia and should be seen under local anesthesia in office or out-patient facilities, this procedure provide us with an opportunity and a technique to eliminate the source of infection immediately and improve the systemic health of the patient, as a result, long term antibiotic and analgescic therapy will not be necessary and patient will be able to resume his or her routine daily life as soon as possible.
**INTRAOSSEOUS ADENOID CYSTIC CARCINOMA OF THE MANDIBLE: REPORT OF A RARE CASE**  
Min Kwon1, Hyo Eun Yoon1, Jung Hoon Yoon1, Ching Yi Chen1, Yuk Kwan Chen2, Li Min Lin2, Wen Chen Wang3, Posang Seok4, Min Kwon1, Hyo Eun Yoon1, Jun Lee2, Jung Hoon Yoon1, 1Department of Oral & Maxillofacial Pathology, College of Dentistry, Wonkwang Bone Regeneration Research Institute, Daejeon Dental Hospital, Wonkwang University, Daejeon, South Korea; 2Department of Oral & Maxillofacial Surgery, College of Dentistry, Wonkwang Bone Regeneration Research Institute, Daejeon Dental Hospital, Wonkwang University, Daejeon, South Korea

**Objective:** This study examined the expression of HDAC8 and the inhibitory effect of HDAC8 in oral squamous cell carcinoma (OSCC).

**Study Design:** The expression of HDAC8 was measured in 4-nitroquinoline 1-oxide (4NQO)-induced rat tongue carcinogenesis model, human OSCC cells, and human OSCC tissues using immunohistochemistry and immunoblot. HDAC8 was inhibited in OSCC cells by siRNA and chemical inhibitor, and cell proliferation was quantified. Apoptosis and autophagy were measured using flow cytometry.

**Results:** HDAC8 was overexpressed in SCC tissues and OSCC cells, but not in normal tissues and INOK cells. The inhibition of HDAC8 significantly inhibited the proliferation of OSCC cells. HDAC8 inhibition induced both apoptosis and autophagy in OSCC cells.

**Conclusions:** This study suggests that inhibition of HDAC8 might become a novel therapeutic strategy for OSCC. This research was supported by Basic Science Research Program through the National Research Foundation of Korea (NRF) funded by the Ministry of Education, Science and Technology (No. 2011-0023907).

**Keywords:** Oral squamous cell carcinoma(OSCC), HDAC8, Apoptosis, Autophagy

**SALIVARY SIALIC ACID AS A DIAGNOSTIC INDICATOR IN PREMALIGNANT LESIONS**  
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**Objective:** 1. Measuring of salivary sialic acid (free & protein bound), total protein and total sugar in oral leukoplakia patients and healthy controls.
2. Comparing of levels of salivary sialic acid (free & protein bound), total protein and total sugar in oral leukoplakia patients and healthy controls.

**Study Design:** The study population consists of 30 normal, apparently healthy subjects and 30 leukoplakia patients which were diagnosed clinically and histopathologically.

**Results:** The mean and SD for protein bound sialic acid, free sialic acid and total protein in oral leukoplakia group compared to control groups was found to be higher and difference between 2 groups was found to be statistically significant (t= 24.398, p<0.0000), (t= 10.602, p=0.0000), (t = 14.933, p<0.0000) respectively.

**Conclusions:** Salivary sialic acid is a sensitive prognostic indicator for oral premalignancy as it showed elevated levels of free sialic acid and protein bound sialic acid in oral leukoplakia patients.

**Keywords:** Salivary Sialic acid, leukoplakia, premalignancy

**METASTASIS OF A BREAST CARCINOMA TO THE GINGIVA. CASE PRESENTATION**  
Beatriz C. Aldape Barrios, Angela Maria, Sierra Manchineli, Enrique Grajeda, Dentistry School, UNAM, Mexico City
Metastasis to the mouth, represent only less than 1% with metastases from the breast being the majority. An excisional biopsy of a gingival, pathological exam, clinical diagnosis of pyogenic granuloma. The lesion has been excised from a 67 years old woman, that according to history, presented with an asymptomatic, ulcerated swelling in the anterior maxillary gingiva, less 1 cm in diameter. The histologic diagnosis neoplastic proliferation composed of pleomorphic granular giant cells with abnormal mitosis. Immunohistochemical: vimentin positive, CD 68 positive, CEA negative, citokeratins 5/6 negative and HMB 45 negative. In 2012 she had being diagnosed with an invasive ductal carcinoma of the breast RH-HER2+++ (+), (E IIIB, T4 N2 M0) and treated with chemotherapy (EPIRUBICIN + DOCE-TAXEL) and left radical mastectomy, an 28 cycles of radiotherapy. PET: multiple metastases in the lung and regional lymphatic nodes. The prognosis was poor, the patient die a few months letter.

Keywords: Breast carcinoma, metastasis gingiva, diagnosis

IGF-1R INHIBITION BY APICIDIN INDUCES APOPTOSIS AND AUTOPHAGY IN SALIVARY MUCOEPIDERMOID CARCINOMA CELLS Mee Young Ahn1, Seong Min Kwon1, Hye Eun Yoon1, Ji Wee Ahn1, Jun Lee2, Jung Hoon Yoon1, 1Department of Oral & Maxillofacial Pathology, College of Dentistry, Wonkwang University, Daejeon, Korea; 2Department of Oral & Maxillofacial Surgery, College of Dentistry, Wonkwang University, Daejeon, Korea.

Objective: The aim of this study was to evaluate the anti-tumor efficacy of IGF-1R inhibition by apicidin in YD-15 salivary mucopidermoid carcinoma cells.

Study Design: Cell proliferation and the expression of IGF-1R were measured in apicidin treated YD-15 cells using MTT assay and immunoblot. IGF-1R was inhibited in YD-15 cells by siRNA and chemical inhibitor, and cell proliferation was quantified. Apoptosis and autophagy were measured using flow cytometry.

Results: Apicidin significantly inhibited the proliferation and IGF-1R expression in YD-15 cells. IGF-1R inhibition by siRNA and chemical inhibitor inhibited the proliferation and induced both apoptosis and autophagy.

Conclusions: These results suggest that apicidin is an attractive chemotherapeutic agent in targeting IGF-1R for human MEC cancer therapy. This work was supported by the National Research Foundation of Korea (NRF) grant funded by the Korea government (MEST) (No. 2013R1A2A201067254).

Keywords: IGF-1R, Apicidin, MEC, Apoptosis, Autophagy

CD34 EXPRESSION IN SALIVARY GLAND TUMORS: AN IMMUNOHISTOCHEMICAL STUDY Saeed Atarbashi Moghadam1, Ayda Mohammad Abadi2, Sepideh Mokhtarli1, 1Assistant Professor, Department of Oral and Maxillofacial Pathology, Dental School of Shahid Beheshti University of Medical Sciences, Tehran, Iran; 2Undergraduate Student, Dental School of Shahid Beheshti University of Medical Sciences, Tehran, Iran

Objective: Tumor growth depends on angiogenesis which is assessed by tumor microvessel density through CD34 immunostaining. The present study evaluated the angiogenic activity in salivary gland neoplasms. The possible role of CD34 in progression of salivary gland tumors is also investigated.

Study Design: 15 pleomorphic adenomas and 15 malignant salivary gland tumors were immunostained for CD34. Hotspots at low power magnification were selected for vessel counting at x400 magnification. Then, the mean number of microvessels in three fields within tumor mass was calculated.

Results: Microvessel density in pleomorphic adenoma and malignant salivary gland tumors were 10.93±5.95 and 26.46±7.32 respectively. Tumor angiogenesis in pleomorphic adenoma was much lower than other lesions (p<0.05). No significant difference was observed between malignant tumors (p>0.05).

Conclusions: Salivary gland carcinomas demonstrated higher vascular density than benign pleomorphic adenoma regardless of cell types and architecture. The reason for this higher angiogenic activity could be related to metabolic characteristics of malignant cells.

Keywords: CD34, Immunohistochemistry, Salivary gland tumors, Angiogenesis

CLINICOPATHOLOGIC/DEMOGRAPHICS AND SURVIVAL FEATURES OF AN ORAL SQUAMOUS CELL CARCINOMA CASE SERIES IN CHILEAN PEOPLE Gonzalo Alberto Rojas1, Andrea Paz Maturana1, Montserrat De Los Angeles Reyes1, Diego Antonio Carrillo2, Juan Pablo Muñoz3, Francisco Renán Aguayo2, Iris Lucia Espinoza1, 1Department of Oral Medicine and Pathology, Universidad de Chile; 2Program of Virology, ICBM, University of Chile; 3Program of Virology, ICBM, University of Chile

Objective: To describe clinicopathologic/demographics and survival features from a Chilean sample of patients with Oral Squamous Cell Carcinoma (OSCC).

Study Design: Descriptive study of OSCC case series from an Oral Pathology Center (Dental School-Universidad de Chile), recorded between 2000-2008.

Results: 37 OSCC cases were included. The age mean was 61.9 years old (range: 33-99 years old). The most frequent sites were alveolar ridge (37.8%) and tongue (35.1%). Most of the cases were well-differentiated carcinoma (64,9%) and two cases were High Risk HPV-positive detected through conventional polymerase chain reaction (PCR). 43.2% died less than 2 years after the OSCC diagnostic and only 17 people were alive after 5 years.

Conclusions: OSCC is a tumor that affects only adult people and in this group is an extremely aggressive tumor with a poor prognostic. The HPV infection is rare.

Keywords: Oral Squamous Cell Carcinoma, Survival, Clinicopathologic features of cancer, Human Papillomavirus

ANALYSIS OF ORAL CANCER CASES OF SRI LANKA FOR 13 YEARS Rasika Pawiththra Illeperuma1, Samadaran Siriwardena2, Dsy Jayathilake3, Nilmiki Piatakotuwage2, Ranjith Kumarasiri4, Manjula Attygala2, Roshan Periris2, Aruni Tilakaratne2, Wanninayake Madlyanseilage Tilakaranje2, 1Faculty of Allied Health Sciences, University of Peradeniya, Sri Lanka; 2Faculty of Dental Sciences, University of Peradeniya, Sri Lanka; 3Faculty of Medicine, University of Peradeniya, Sri Lanka

Objective: In Southeast Asia, head and neck cancer (HNC) accounts for nearly 50% of total malignancies. Comprehensive
analysis of HNC in Sri Lankan population is not yet done. In this study we analyze 4394 cases over a period of 13 years.

**Study Design:** Data collected from the archives of the Department of Oral Pathology, Dental Faculty, University of Peradeniya from 1999 to 2011. Histopathological variations of the HNC and correlation with demographic data were analyzed in order to visualize changing patterns with time. Statistical analysis was done using SPSS version 17.

**Results:** Incidence of squamous cell carcinoma (SCC) in alveolar ridge and buccal mucosa significantly increased in elderly while more tongue involvement noticed in younger age groups. Moreover, incidence of tongue cancer was significantly increased. Basaloid type of oral cancer incidence was significantly increased over time.

**Conclusions:** Demographic analysis of the HNC data in Sri Lanka demonstrated significant trends.

**Keywords:** Demographic analysis, Head and Neck Cancer, Oral Squamous Cell Carcinoma, Sri Lanka

**ORAL SQUAMOUS CELL CARCINOMA OF THE MANDIBLE: A CASE REPORT** Gaye Keser1, Filiz Namdar Pekiner1, Semih Özşeyyar1, Özlem Okumus2, Canan Alatli2, Semra Dölek Güler2, 1Department of Oral Diagnosis and Radiology, Faculty of Dentistry, Marmara University, Istanbul, Turkey; 2Department of Oncology Cytology, Institute of Radiology, Faculty of Dentistry, Istanbul University, Istanbul, Turkey

Squamous cell carcinoma (SCC) is a commonly seen malignant epithelial neoplasm of the oral cavity which is characterized by variable clinical manifestations. It arises from dysplastic oral squamous epithelium. By considering the pathogenesis of SCC, the smooth and intact surface for this lesion is not usual. A 76-year-old male patient who has been referred to Marmara University, Faculty of Dentistry, Oral Diagnosis and Radiology Clinic had a complaint of a non-healing and progressively enlarging lesion on the left mandibular buccal mucosa and alveolar ridge. Patient has a history of operation for prostate carcinoma about 2 years ago. No radiotherapy or chemotherapy was given, yet he is under control with routine tasks once a year. Under local anesthesia incisional biopsy was performed and histopathological examination revealed microinvasive squamous cell carcinoma as definite diagnosis. Consequently, the patient was referred to Ear, Nose and Throat (ENT) department where the lesion was treated by surgery.

**Keywords:** Squamous cell carcinoma, oral diagnosis, histopathological examination

**PRIMARY XANTHOMA OF THE MANDIBLE: A RARE CASE REPORT AND LITERATURE REVIEW** Özüm Dereci1, 2, Sinan Ay1, 1Department of Oral and Maxillofacial Surgery, Eskişehir Osmangazi University, Faculty of Dentistry, Eskişehir, Turkey; 2Department of Pathology, Eskişehir Osmangazi University, Faculty of Medicine, Eskişehir, Turkey

Primary bone xanthoma is a rare solitary lesion with unknown origin and is not associated with endocrine or metabolic diseases such as hyperlipoproteinaemia, hyperlipidaemia and diabetes mellitus. Microscopically, it is composed of macrophages with granular and eosinophilic cytoplasm that is called foamy cells. The occurrence of the lesion on jaws is extremely rare and it is usually localized on mandible. In this case report, we present a primary mandibular xanthoma, with extensive literature review, focusing on the differential diagnosis.

**Keywords:** xanthoma, mandibular xanthoma, primary xanthoma

**ORAL MANIFESTATION OF OTA’S NEVUS. A CASE REPORT WITH EMPHASIS ON DIFFERENTIAL DIAGNOSIS** Georgi Tomchev Tomov, Maria Zaharieva Mutačheva, Nikolay Veselinov Nikolov, Department of Oral Pathology, Medical University, Plovdiv, Bulgaria

Nevus of Ota represents benign melanocytic pigmented disorder that affects predominantly the Asian population. It occurs in the area innervated by the first and second division of the trigeminal nerve. Oral manifestations are rarely noted with only 15 cases reported. This report documents a rare oral manifestation of nevus of Ota with emphasis on the differential diagnosis. A 52-year-old Bulgarian male from Caucasian race is referred to the Oral Pathology Department. The patient presented with asymptomatic hyperpigmented macular blush-black lesion involving the right periorbital area, sclera and palpebras. On intraoral evaluation, a similar poor-defined lesion with blush-black appearance on the right side of the posterior part of the hard palate was observed. The oral lesion is classified as Type I subclass IE according to modified Tanino’s classification. The differential diagnosis of the oral manifestations Ota’s nevus is important in order to assist in proper follow-up to avert potential malignant transformation.

**Keywords:** Nevus of Ota, oral manifestations, differential diagnosis

**PLEOMORPHIC UNDIFFERENTIATED SARCOMA (MALIGNANT FIBROUS HISTIOCYTOMA)** Sonia Lopez Leivas1, Ana María Cano Valdés2, Beatriz Catalina Alidue Barrios1, Gerardo Jasso Romero1, 1Facultad de Odontología, División de Estudios de Posgrado e Investigación, Universidad Nacional Autónoma de México, Mexico City, Mexico; 2Instituto Nacional de Cancerología México, Mexico City, Mexico; 3Private Practice, Mexico City, Mexico

A 27-year-old female presented with a tumor on the right side of her face, the tumor occupied the nasal cavity extending from the lamina cribosa to the malar region and infiltrating the palate, the maxillary sinus, the orbit and soft tissues of the face. An incisonal biopsy was performed and the diagnosis of sarcoma with smooth muscle differentiation was established. Immunohistochemistry was diffusely positive for vimentin and focally positive to actin. Desmin, H-caldesmon, CD34, S-100 protein, HBM-45 and CKA-1/AE3 were negative. The final diagnosis of the incisonal biopsy was sarcoma with myogenic differentiation. The tumor was surgically excised. Histopathology of the surgical specimen demonstrated the presence of multinucleated giant cells that led to the final diagnosis of pleomorphic undifferentiated sarcoma. The patient had undergone a second surgery because of tumor recurrence.

**Keywords:** malignant fibrous histiocytoma, undifferentiated sarcoma, myogenic sarcoma, head mass

**SUCCESSFUL RESTORATION USING AUTOLOGOUS HUMAN BONE MARROW MESENCHYMAL STEM CELL IN A PATIENT WITH CHERUBISM** Jun Lee1, Boyoung Chol2, Jung Hoon Yoon2, 1Department of Oral and Maxillofacial Surgery, College of Dentistry, Daejeon Dental Hospital, Wonkwang Bone Regeneration Research Institute, Wonkwang University, Daejeon, Korea; 2Department of Oral and Maxillofacial Pathology, College of Dentistry, Daejeon Dental Hospital,
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Cherubism is a skeletal dysplasia characterized by progressive, painless, bilateral and symmetric lesions limited to the jaws. The lesions subsequently begin to regress, fill with bone and remodel until age 30. Because cherubism is usually self-limiting, operative treatment may not be necessary. However, surgical intervention with curettage, contouring or resection may be indicated for functional or aesthetic reasons. Surgical procedures are usually performed when the disease is not activated. Tissue engineering uses scaffolds as delivery vehicles for transplanted cells to restore function and replace damaged tissue. Tissue engineering using fibrin scaffolds as delivery vehicles can be restore function and replace damaged tissue on oral maxillofacial area. This is the first report of a successful esthetic restoration using autologous human bone marrow mesenchymal stem cell for cherubism patient after corticotomy and curretage on both mandibular lesions.

Support: This research was supported by iPET, Ministry of Agriculture, Food and Rural Affairs (112092-03-2-HD020).

Keywords: Cherubism, Tissue engineering, autologous human bone marrow mesenchymal stem cell

EXPRESSION OF NUCLEOTIDE-BINDING OLIGOMERIZATION DOMAIN-LIKE RECEPTOR IN ORAL LICHEN PLANUS
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Objective: The aim of the present study is to explore the relationship of NOD and OLP.

Study Design: In this study, we examined the expression of NOD1 and NOD2 in OLP patients by RT-PCR and immunohistochemistry.

Results: The result showed that the expression of NOD1 and NOD2 was increased markedly in OLP group compared to control group, especially NOD2. We suggest NOD1 and NOD2 have an important role in the pathogenesis and maintenance of OLP, especially NOD2.

Conclusions: We propose that NOD1 and NOD2 could be a new target for diagnosis and treatment of OLP. This research was supported by Basic Science Research Program through the National Research Foundation of Korea (NRF) funded by the Ministry of Education, Science and Technology (No. 2012R1A1A2041317).

Keywords: Oral Lichen Planus, NOD1, NOD2

PERIPHERAL ODONTOGENIC FIBROMA: CASE REPORT
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Peripheral odontogenic fibroma is a rare entity of odontogenic tumors which is usually presented as slowly growing mass on the gingiva. Frequently, this mass is clinically mistaken for pyogenic granuloma, peripheral giant cell granuloma or peripheral ossifying fibroma. We report two cases of male Libyan patient presented with a painless red pedunculated mass on the palatal gingival both were related to posterior maxillary teeth. Histological examinations of the specimens show a nodule of dense collagen fibers with multiple islands of odontogenic epithelia covered by stratified squamous epithelia. Radiographically both lesions show a vertical pattern of bone resorption between the teeth. The tendency to recurrence has been noted with this type of odontogenic tumours, that highlights the importance of distinguishing this type of lesions and the long term follow-up.

Keywords: odontogenic tumors, peripheral odontogenic fibroma, pyogenic granuloma, palate

HORRIFIC BUT HARMLESS, TRAUMATIC ULCERATIVE GRANULOMA WITH STROMAL EOSINOPHILIA (TUGSE) Khaled Shaikhi, Ali M. Elmurtadi, Mohammed Abdulrahim, Department of Oral Medicine, Pathology, Diagnosis and Oral Radiology

TUGSE is a chronic, benign, self-limiting lesion of the oral mucosa, commonly affecting the tongue as an ulcer with elevated rolled margins. The clinical presentation of this entity resembles more serious lesion such as squamous-cell carcinoma. We report a case of 28-year-old male Libyan patient. Who presented with an indurated ulcer which exhibits elevated rolled margins on the dorsum surface of the tongue. An incisional biopsy was taken. Histologically, TUGSE revealed a diffuse polymorphic inflammatory infiltrated, with massive eosinophils, involving surface mucosa and the deeper muscular layer and presence of atypical large mononuclear cells (atypical histocytes) scattered within the inflammatory infiltrated are also noted in some areas. The Ulcer spontaneously resolved after 4 weeks of the incisional biopsy. The diagnosis of TUGSE usually based on a combination of history, clinical examination and histopathology.

Keywords: Traumatic ulcerative, granuloma, eosinophilia, Tongue

EVALUATION OF MAST CELL DISTRIBUTION IN ORAL LICHEN PLANUS AND LICHENOID LESIONS BY HISTOCHEMICAL ANALYSIS
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Objective: The aim of this study was to find any specific pattern of mast cell count and distribution between oral lichen planus and lichenoid reactions.

Study Design: The density and localization of mast cells were examined by evaluation of 22 patients with diagnosis of oral lichen planus (11 cases) and oral lichenoid reactions (11 cases) by toluidine blue histochemical staining. Data were analyzed with the Kruskal Wallis and Mann-Whitney U test methods (P=0.05).

Results: No significant difference was detected between the total number of mast cells of two groups (P=0.326) but a statistically significance was achieved between mast cell counts among reticular and junctional zone in either lesions (P<0.05).

Conclusions: Mast cells appear to play a key role in pathogenesis of oral inflammation but we can not discriminate reliably between lichen planus and other lichenoid mimickers according to this parameter because the number of mast cells was increased both in these conditions.

Keywords: mast cells, oral lichenoid lesions, lichen planus

FOCAL CEMENTO OSSEOUS DYSPLASIA WHICH CAUSED PARESTESIA: A CASE REPORT Mustafa Günişok1, Kaan Hamurcu2, Derviş Kaan Kilavuz2, Meryem
Focal cemento osseous dysplasia (FCOD) is a benign fibro-osseous lesion which changes cancellous bone tissue with each fibrous tissue and cementum-like material or both together. FCOD is generally asymptomatic and usually found during routine radiographic examination. The etiology and pathogenesis of FCOD is unknown. This lesion is evaluated to be a reactive or a dysplastic process in the periapical tissues. Radiological appearance of FCOD is either complete radiolucent and complete radiopaque or mixed radiolucent, radiopaque together. In this case report a FCOD lesion located between the first premolar and the second molar on the left mandible of 60 years old female patient is presented. The lesion caused expansion of vestibular bone and paresthesia in the left corner of the lip. The clinical, radiological and histopathological findings are reviewed under current literature in addition with treatment and one year follow up after surgery.

Keywords: Fibro-osseous lesion, focal semonto osseous dysplasia, cone beam volumetric tomography, treatment

MUCOSAL MELANOMA OF THE HEAD AND NECK
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Objective: To determine clinical features of the head and neck mucosal melanoma (HNMM) cases managed at our institution.

Study Design: Ten subjects diagnosed with HNMM from 2001 to 2013 were retrospectively reviewed.

Results: There were six males (M: F = 1:5) and mean age was 60.0 years (range 28-76 years, ± 16.4). The involved sites were hard palate in five of the subjects, maxilla and lateral nasal wall in three of the subjects, upper alveolar ridge in one of the subject, and lower alveolar ridge and buccal mucosa in one of the subject. Nine subjects had T4a, one subject had T3 tumor, and none of the patients had regional or systemic metastases at presentation.

Conclusions: The most common site of involvement for HNMM was oral cavity, and the most commonly involved subsite within the oral cavity was the hard palate. There were neither regional lymph nodes enlarged nor systemic metastases at presentation in any of the subjects.

Keywords: mucosal melanoma, oral cavity, sinonasal, hard palate, surgery.

CLINICOPATHOLOGICAL SIGNIFICANCE OF KISS-1 EXPRESSION IN ORAL SQUAMOUS CELL CARCINOMA
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Objective: The KISS1 gene has been identified as metastasis suppressor gene in various human malignancies. This study aims to investigate the expression of KiSS-1 in oral squamous cell carcinoma(OSCC) patient samples.

Study Design: A total of 65 patients with OSCC were selected and immunostained with KiSS-1 antibody by routine method. The relationships between KiSS-1 expression and clinicopathological parameters were evaluated using the chi-squared test. Survival analysis was also performed using the Kaplan-Meier method and log-rank test.

Results: KiSS-1 expression was positive in 43 (66.2%) of 65 cases of OSCC. Statistical analysis revealed a significant correlation between KiSS-1 expression and lymph node metastasis (P = 0.013), recurrence (P = 0.049), and clinical stage (P = 0.047). In the survival analysis, there was a statistically significant association between KiSS-1 positivity and better prognosis of patients (P = 0.008).

Conclusions: KiSS-1 expression may be an important prognostic marker in OSCC.

Keywords: Oral squamous cell carcinoma, KiSS-1, Metastasis suppressor gene

EFFECT OF USE OF PROPOLIS ON SERUM LEVELS OF IL-17 AND CLINICAL SYMPTOMS AND SIGNS IN PATIENTS WITH ULCERATIVE ORAL LICHEN PLANUS
Ali Taghavi Zenou1, Masoumeh MehdiPour2, Reza Tavakoli Ata Abadi1, Javad Shokri2, Mehrangiz Rajaei3, Marzieh Agahzadeh1, Narges Golizadeh1, 1Department of Oral Medicine, Tabriz University of Medical Sciences; 2Department of Pharmaceutics, Tabriz University of Medical Sciences; 3Department of Immunology, Tabriz University of Medical Sciences, Tabriz, Iran

Objective: The aim of this study was to evaluate the effect of propolis (a honeybee product) on serum levels of IL-17 and
clinical symptoms and signs in patients with ulcerative oral lichen planus (OLP).

**Study Design:** Serum levels of IL-17, pain and burning sensation severity based on VAS and the maximum size of the lesions of 25 patients with ulcerative oral lichen planus were determined before and after administration of propolis for 30 days (a 500-mg capsule daily). Data was analyzed by Kolmogorov-Smirnov test and t-test using SPSS 13 (p < 0.05).

**Results:** IL-17 levels, pain and burning sensation severities and lesion sizes before and after intervention were 135 ± 16.5, 127 ± 12 pg/mL (p = 0.006), 4.2 ± 3.6, 3.3 ± 2.8 (p = 0.049) and 14 ± 7.7, 9.8 ± 7.6 mm, respectively (p = 0.03).

**Conclusions:** Administration of propolis significantly decreased IL-17 serum levels, VAS means and the maximum lesion sizes in patients with ulcerative lichen planus.

**Keywords:** ulcerative oral lichen planus, Interleukin 17, propolis

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**EFFECT OF MUCOADHESIVE FORM OF MYCOPHENOLATE MOFETIL ON ORAL EROSIIVE LICHEN PLANUS LESIONS** Ali Taghavi Zanac1, Masoumeh Mehldipour1, Javad Shokri2, Negin Samiei1, Marzuyeh Aghazadeh1,

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**Objective:** This study was performed to determine the effect of 2% Mycophenolate mofetil (MMF) mucoadhesive on ulcer size and severity of burning sensation and pain in oral lichen planus (OLP) patients using visual analog scale (VAS).

**Study Design:** VAS and lesion sizes of 27 patients with OLP (group A: 10 patients with bilateral ulcerative lesions, a double-blind clinical trial with mucoadhesive and placebo, group B: 17 patients with unilateral ulcerative lesions, a before-after clinical trial) were recorded at baseline and each week of the treatment for 4 weeks. Data were analyzed with paired t-test using SPSS 16.

**Results:** After 4 weeks there were significant reductions in VAS severity in groups A (P = 0.012) and B (P = 0.004). The lesion sizes decreased on case sides in groups A (P = 0.004) and B (P = 0.002).

**Conclusions:** MMF mucoadhesive was effective in decreasing VAS severity and ulcer sizes in ulcerative OLP.

**Keywords:** Mycophenolate Mofetil, Oral Erosive Lichen Planus Lesions

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**CELL DEATH AND RESISTANCE BY HSPS IN PDT-TREATED CANCER CELLS** Jisun Kim, Sanwoo Kim, Hongran Choi, Oksoon Kim, Department of oral pathology, Dental Science Research Institute and, Medical Research Center for Biomimeralization Disorders, School of Dentistry, Chonnam National University, Gwangju, Republic of Korea

**Objective:** Photodynamic therapy (PDT) is an effective cancer therapy through by irradiation after specific photosensitizer. However, PDT shows the resistance by the alteration of gene expression and protein activity. Heat shock protein (HSP) has been suggested to play an important role in the regulation of cell death and PDT-resistance.

**Study Design:** Fadu cells were treated with hematoxylin, followed by irradiation. We investigated the alteration of HSPs expression. We checked the effects of PDT-induced cell death in down-regulation of HSPs.

**Results:** HSP27 expression was decreased by in Fadu cells. In contrast, HSP70 and HSP90 expressions were increased by PDT. HSP70 and 90 were regulated by LC3II. However, HSP27 was regulated to PARP-1. HSP27 and Hsp70 have roles of cross-talk which regulated cell death through by autophagy and apoptosis.

**Conclusions:** Therefore, HSP27 and HSP70 were necessary to increase the PDT effects against PDT resistance which was happened by compensation of autophagic and apoptotic cell death.

**Keywords:** Heat shock protein, photodynamic therapy, cancer cells

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**OVEREXPRESSION OF CLAUDIN-1 IS ASSOCIATED WITH POOR PROGNOSIS OF ORAL SQUAMOUS CELL CARCINOMA** Ekart Phatararatkatip1, Kraisorn Sappaya-tosok2, 1Faculty of Dentistry, Chulalongkorn University, Bangkok, Thailand; 2Faculty of Dental Medicine, Rangsit University, Bangkok, Thailand

**Objective:** Claudins constitute a group of proteins forming the principal element of tight junctions. The altered expressions of several claudins have been reported in cancer cells. The purpose of this study was to investigate the expressions of claudin-1 and claudin-4 in oral squamous cell carcinoma and examine their relationships with patient clinical-pathologic features.

**Study Design:** 45 oral squamous cell carcinoma cases were enrolled and the claudin-1 and claudin-4 expressions were determined immunohistochecmically.

**Results:** The claudin-1 and claudin-4 immunoreactivities were noted in 86.7% and 80% of cases, respectively. The majority of cases showed the positive staining in <25% of cancer cells. The increased claudin-1 expression was significantly associated with high pathologic grade, nodal metastasis and the advanced clinical stage. No relationship with different claudin-4 expressions was observed.

**Conclusions:** Claudin-1 may play a role in oral squamous cell carcinoma progression and could serve as a prognostic indication of this neoplasm.

**Keywords:** Claudin-1, Claudin-4, Oral squamous cell carcinoma

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**MYOEPITHELIOMA OF THE BUCCAL MUCOSA WITH A PSEUDO-CRIBRIFORM PATTERN: REPORT OF A RARE CASE AND REVIEW OF THE LITERATURE** Maryam Khalili1, Fereshteh Baghai1, Arghavan Etebarian1, Farzad Yazdan2, 1Department of Oral and Maxillofacial Pathology, School of Dentistry, Tehran University of Medical Sciences; 2Department of Pathology, Tehran University of Medical Sciences, Tehran, Iran

Myoepithelioma is a rare neoplasm of the salivary glands, represents 1.5% of all salivary gland tumors. It is localized most often in parotid and to a lesser extent in the minor intraoral salivary glands. It was considered to be a type of pleomorphic adenoma but today myoepitheliomas are believed to be a distinct pathological entity which must be differentiated from several benign and malignant epithelial and mesenchymal tumors. Conservative surgery is the treatment of choice and apparently presents a good prognosis. Myoepithelioma of the buccal mucosa is very rare and only five cases have been reported in the world literature so far. Here, we present another case of myoepithelioma of the minor salivary glands of the buccal area with emphasis on
its distinct histopathological and immunohistochemical features and differential diagnosis.

**Keywords:** Myoepithelioma, salivary gland tumor, cribriform pattern, case report

**SEVERE RECURRENT GINGIVAL HYPERPLASIA IN A 7-YEAR-OLD PATIENT**

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A 7-year-old boy has been managed at Great Ormond Street Hospital since infancy for severe recurrent gingival hyperplasia. The patient first presented at 18 months of age with severe gingival hyperplasia covering the upper and lower dentition, causing aesthetic and functional concerns. There was no family history of neurofibromatosis or other medical conditions associated with gingival hyperplasia. Medically, the patient has multiple sutureal synostoses; however, no causes of the gingival hyperplasia were identified. Multiple gingivectomies and the exposure of teeth have been performed over a period of 5 years. Histopathological diagnoses have alternated between juvenile hyaline fibromatosis and gingival fibromatosis, with the patient still being investigated for a confirmed aetiology. This case report outlines the diagnostic difficulties of this case and highlights the patient management and histopathological findings over a 5-year period. This is a rare case of paediatric severe recurrent gingival hyperplasia where the aetiology remains unknown.

**Keywords:** Gingival Hyperplasia, Paediatric, Juvenile Hyaline Fibromatosis

**EFFECTS OF ANTIMICROBIAL PEPTIDE CATHELICIDIN (LL-37) BY 625 NM LED IRRADIATION IN PORPHYROMONAS GINGIVALIS INFECTED IMMORTALIZED GINGIVAL FIBROBLASTS**

Okjoon Kim, Sangwoo Kim, Jisun Kim, Hongran Choi, Department of Oral Pathology, Dental Science Research Institute and Medical Research Center for Biominalization Disorders, School of Dentistry, Chonnam National University, Gwangju, Republic of Korea

**Objective:** Antimicrobial peptide are crucial to the host defense response in maintaining cellular homeostasis against microbial invasion. Light emitting diode (LED) irradiation affects the host defense response against bacterial infections.

**Study Design:** We investigated the host defense response by LED irradiation of P. gingivalis infected immortalized gingival fibroblasts (IGFs). IGFs were exposed to P. gingivalis following LED irradiation at 425, 525 and 625 nm (11 mW/cm²) for 1 h. The ‘Dark 1’ group had IGFs only and the ‘Dark 2’ group contained P. gingivalis infected IGFs without irradiation.

**Results:** LED irradiation showed bactericidal activity via the LL-37 antimicrobial peptide in P. gingivalis infected IGFs. Irradiation at 625 nm decreased inflammatory responses involving prostaglandin E2 release induced by ROS in P. gingivalis infected IGFs.

**Conclusions:** Irradiation at 625 nm is important in the host anti-inflammatory defense response involving an antimicrobial peptide in P. gingivalis infected IGFs.

**Keywords:** Antimicrobial peptide, cathelicidin (LL-37), Porphyromonas gingivalis (P. gingivalis), LED irradiation (425, 525 and 625nm)

**PSEUDO-GAUCHER CELLS IN UNDIAGNOSED THALASSEMIA PATIENT: A CASE REPORT**

Firstine Kelsi Hartanto1, Ajura Abdul Jalil2, Noor Azwani Mat Nawi2,

Lau Shin Hin2, 1Department of Oro-Maxillofacial Surgical & Medical Sciences, Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia; 2Stomatology Unit, Cancer Research Centre, Institute for Medical Research, Kuala Lumpur, Malaysia; 1Department of Oral Surgery, Queen Elizabeth Hospital, Kota Kinabalu Sabah, Malaysia

Gaucher-like or pseudo-Gaucher cells can occur in many conditions. They may cause diagnostic confusion, but it can be a clue of pathological conditions including chronic myeloid leukemia, type II congenital dyserythropoietic anemia and thalassemia. Histologically, pseudo-Gaucher cells have a lobulated and eccentric nucleus with foamy cytoplasm. We report a 16-year-old female who presented with facial bone enlargement and also under follow-up with medical team to rule out β-Thalassemia. Histopathological examination of a biopsy for mandibular bone swelling showed presence of sheets of pseudo-Gaucher cells in the marrow spaces. The finding of these pseudo-Gaucher cells can be helpful to establish diagnosis and further management of this patient.

**Keywords:** Pseudo-Gaucher cells, Thalassemia, mandible

**AGE ESTIMATION IN CHILDREN BY MEASUREMENT OF OPEN APICES IN TOOTH ROOTS IN CHINESE POPULATION IN MALAYSIA: A RADIOLOGIC STUDY**

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**Objective:** Age estimation is used in the absence of accurate age data, forensic dentistry in human identification, paediatric endocrinology and in orthodontic treatment. This pilot study is done to test the accuracy of Cameriere’s age estimation method using European formula for Chinese children in Malaysia.

**Study Design:** We evaluated the Orthopantomographs of 45 Chinese children (17 boys and 28 girls) aged between 5 to 18 years using Romexis 3.0.1R software. Dental age was calculated based on the European formula.

**Results:** Pearson correlation between the chronological age and dental age was significant at 0.01 level with P value = 0.909. Mean of difference of chronological age and dental age is 0.5547 years and the mean +/-SD is 3.3234 to -2.214 years.

**Conclusions:** Dental age calculated using the European formula showed high and significant correlation with the chronological age therefore the formula can be applied to the Chinese population in Malaysia.

**Keywords:** Cameriere, open apex, dental age, Chinese, European formula

**ANGIOGENESIS OF ORAL LICHEN PLANUS: AN IMMUNOHISTOCHEMICAL STUDY**

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**Objective:** Oral lichen planus (OLP) is a relatively common disease and considered to be a chronic inflammatory disease with an autoimmune pathogenesis. Angiogenesis plays an important role in both physiological and pathologic conditions, including chronic inflammatory disorders. The aim of this immunohistochemical study was to investigate the role of angiogenesis in the pathogenesis of OLP.
Study Design: 40 cases of OLP and 20 cases of normal oral mucosa were included in the study. The sections were immunostained for CD31 and CD34 antibodies and the microvessel density (MVD) was counted in ten selected areas of high inflammatory. The mean value represented the final MVD.

Results: The MVD was significantly higher in OLP than normal mucosa (p<0.05). The number of the microvessels increased particularly in the inflammatory infiltrate areas and epithelium-connective tissue interface in comparison with deep connective tissue.

Conclusions: Anti-angiogenic therapy might be a possible therapeutic target for patients with OLP, especially showing poor response to immunosuppressive agents.

Keywords: angiogenesis, lichen planus, microvessel density, oral squamous cell carcinoma

ATYPICAL UNHEALING ULCER IN HIV-INFECTION PATIENT: A CASE REPORT Yu Hisien Lee1, Chuan Hang Yu2, Ming Yang Chou2, Yu Feng Huang2, 1College of Oral Medicine, Chung Shan Medical University, Taichung City, Taiwan; 2College of Oral Medicine Center, Chung Shan Medical University Hospital, Taichung city, Taiwan

Biopsy should be performed on unhealing ulcers because either infection or neoplasm may be present. The present case showed a 32-year-old male patient complaining about a painful ulcer over left border of tongue for 3 weeks. Intraoral examination revealed a crater-like ulcer about 10*10 mm in diameter with induration. Microscopically, the lesion showed ulcer with atypical lymphocyte infiltrated in muscle layer of tongue and the immunoprofiles of atypical cells are CD4(-), CD20(-), CD79a(-), CD3(±), CD8(+), MPO(-), CD68(-), CD1a(-), S-100(-), CD34(-), CD56(-), CD30 scatter cell(+) and CD4 scatter cell(+). After biopsy, the ulcer has almost healed completely with some white coating which was wipeable with gauze. Further hematological examination showed low white count with atypical lymphocyte and anti-HIV positive. The diagnosis of HIV infection was established.

Keywords: Oral ulcer, HIV, Atypical lymphocyte, Candidiasis

LAUGIER-HUNZIKER SYNDROME: A CASE REPORT
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The Laugier—Hunziker syndrome (LHS) is a benign acquired macular hyperpigmentation of the oral mucosa with no underlying disease. Affected individuals may also have nail pigmentation. We present the case of a 66-year-old non-smoking caucasian man with macular hyperpigmentation of the oral mucosa with no underlying disease. Affected individuals may also have nail pigmentation. The mean value represented the final MVD.

Results: On the basis of clinical findings and absence of systemic involvement, the diagnosis was consistent with LHS.

Keywords: Laugier-Hunziker syndrome, multifocal oral melanosis, macule

ORAL MALIGNANT MELANOMA: A CASE REPORT AND LITERATURE REVIEW Camilla Borges Ferreira Gomes, Alan Roger Dos Santos Silva, Pablo Agustin Vargas, Oselei Pues De Almeida, Mário Ajudarte Lopes, Karina Gottardello Zacchini, Piracicaba Dental School, University of Campinas — Oral Diagnosis, Brazil

Oral malignant melanoma (OMM) is a rare neoplasm originated from melanocytes, usually diagnosed at advanced stages. OMM is considered more aggressive and with a worse prognosis than the cutaneous counterpart. A 59-year-old female was referred for evaluation of an asymmetric and dark brown lesion on the hard palate under the complete denture. The patient was unsure about the evolution time. Incisional biopsy was performed and histopathological analysis revealed proliferation of atypical melanocytes. Nuclear shape varies from spindle to oval, and melanin pigment was presented in almost all cells. Tumor cells were positive for S100, melan and HMB45 immunomarkers, confirming the diagnosis of OMM. Patient underwent surgery, chemotherapy and prosthetic rehabilitation. The patient is in follow-up for 12 months and no recurrence or metastasis was observed. The current case highlights that OMM first manifest as an intraoral pigmentation, and early diagnosis and prompt treatment are essential to provide better outcomes.

Keywords: oral malignant melanoma, pigmented lesions, hard palate

EVALUATION OF THE EFFICACY OF A CHAMOMILE (MATRICARIA CHAMOMILLA) AND FLAX SEED (LINUM USITATISSIMUM) BASED SALIVA SUBSTITUTE FORMULATED FOR THE RELIEF OF XEROSTOMIA: A PRELIMINARY REPORT Irene Cecilia Morales Bozo1, Blanca Regina Urzúa1, José Manuel Manríquez2, Ana Verónica Ortega2, Juan Pablo Aitken2, Juana Olga Salinas3, 1Institute for Research in Dental Sciences, Faculty of Dentistry, Universidad de Chile; 2Department of Pathology, Faculty of Dentistry, Universidad de Chile; 3Centro de Referencia de Salud Peñalolén Cordillera Oriente, Santiago Metropolitan Region, Chile

Objective: To evaluate the efficacy of a new chamomile and flax seed based saliva substitute in the reduction of xerostomia-associated symptomatology.

Study Design: Fifteen adult subjects presenting xerostomia of diverse origin were selected. Herbal saliva substitute and based carboxymethylcellulose conventional artificial saliva were tested using a double-blind, randomized, cross-over clinical trial with an intervening wash out period.

Results: 100% of subjects presented sensation of dry mouth and 47% stated sensation of thick saliva, need to drink liquids to swallow and sensation of swallowing difficulty. Burning tongue sensation was recorded in 20% of the patients. The most frequent pathologies in the sample were depression, arthritis and arterial hypertension. Results of the clinical tests showed that herbal saliva substitute significantly relieves sensation of dry mouth (Wilcoxon test p<0.05).

Conclusions: New chamomile and flax seed based saliva substitute was effective in relieving xerostomia symptoms, thereby improving the quality of life of population affected.

Grant: SA1212207

Keywords: Chamomile, flax seed, saliva, substitute, xerostomia
AN UNUSUAL ORAL SQUAMOUS CELL CARCINOMA OF THE MANDIBLE SIMILAR TO INFLAMMATORY HYPERPLASTIC LESIONS: A CASE REPORT

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Squamous cell carcinoma is the most common malignant tumor of the oral cavity and one of the 10 most common cause of death. The men/ women ratio is about 2 to 1. Its variable appearances may lead to delays in diagnoses or even to misdiagnoses. We reported a 76 year old edentulous female patient with exophytic lesion on the anterior mandibular ridge that appearance and clinical behavior was similar to inflammatory hyperplastic lesion. After excision biopsy histopathological evaluation confirmed OSCC. Five months later patient was died because of progression of cancer.

Keywords: SCC, Inflammatory Lesion, Anterior Mandible

DIFFUSE LARGE B CELL LYMPHOMA OF TONGUE

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Although Non-Hodgkin lymphoma (NHL) of the oral cavity is the second most common cancer of this region, only 3.5% of all oral malignancies are NHLs. Malignant lymphoma of the tongue is very rare. A 64 year old woman presented with a history of dysphagia, shortness of breath, hoarseness and swelling for three months. Oral examination showed a mass involving the base of the tongue. There was no palpable cervical lymph node on physical examination. Histopathological examination of the lesion demonstrated diffuse infiltration by large atypical lymphoid cells. Immunohistochemically, atypical cells were positive for LCA, CD20, CD79a and negative for pancytokeratin and CD3. The lesion diagnosed as diffuse large B cell lymphoma. The patient was investigated for involvement of other sites, but no other involvement was found. Despite the fact that lymphoma of the tongue is uncommon, it should be kept in mind in differential diagnosis of the tongue masses.

Keywords: Tongue, Lymphoma, Non-Hodgkin Lymphoma

MULTIPLE ONCOCYTIC CYSTADENOMA WITH INTRALUMINAL CRYSTALLOIDS IN PAROTID GLAND

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Oncocytic cystadenoma is a rare benign tumor of major salivary glands and histologically characterized by multicystic growth and an oncocytic epithelial lining, which rarely present with intraluminal crystalloids. We report a case of 82-year-old woman with an enlarging lump in the right parotidal region. A CT scan showed well circumscribed hypodense lesions. A fine-needle aspiration biopsy was suggestive of a benign salivary gland neoplasm. An excisional biopsy showed multiple oncocytic cystadenoma with intraluminal crystalloids. Multiple primary tumors of parotid gland were previously described. It was also reported that crystalloids were found in both salivary duct cysts of the human parotid gland and oncocytic salivary gland neoplasms. Here we describe for the first time multiple oncocytic cystadenoma with intraluminal crystalloids in parotid gland.

Keywords: parotid gland-oncocytic cystadenoma-intra-luminal crystalloids

ASSOCIATION BETWEEN HPV-16/18 INFECTION AND p16/pRb EXPRESSION BY IMMUNOHISTOCHEMISTRY IN ORAL SQUAMOUS CELL CARCINOMA

Gonzalo Alberto Rojas1, Montserrat Reyes1, Andrea Paz Mahurana1, Juan Pablo Muñoz2, Diego Antonio Carrillo2, Rodrigo Montes2, Iris Espinoza1, Gina Pennacchio1, Francisco Aguayo1, 1Department of Oral Medicine and Pathology, Universidad de Chile; 2Program of Virology, ICBM, University of Chile; 3National Institute of Cancer, Chile

Objective: To determine the frequency of infection by Human Papillomavirus (HPV)-16/18 in Oral Squamous Cell Carcinoma (OSCC) and the association with the p16 and pRb expression.

Study Design: Cross-sectional study. Eighty-two cases were selected from the Pathological Anatomy Service, Dental School, University of Chile and National Institute of Cancer. The HPV-16/18 cases were detected through conventional polymerase chain reaction (PCR). Immunohistochemistry was used for p16 and pRb detection.

Results: Eleven cases were HPV-positive (13.4%). Only 3 cases were positive for p16 nuclear/cytoplasm expression and 8 were p16 cytoplasm positive. All cases were negative for pRb.

Conclusions: These preliminary results show no association between HPV-16/18 infection and the expression of p16 nuclear/cytoplasm in OSCC, therefore the p16 expression as a biomarker of HPV infection is inconclusive. Also no association was observed between p16 and pRb expression.

Keywords: Human Papillomavirus 16/18, p16, pRb, Oral squamous cell carcinoma

DIFFERENCES IN VASCULAR DENSITY BETWEEN FIBRO-OSEOUS LESIONS

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Objective: To compare vascular density and surface of vessels between central ossifying fibroma (COF) and fibrous dysplasia (FD).

Study Design: Retrospective study central ossifying fibroma and fibrous dysplasia, 1996-2013. With the aid of a microscope-attached video camera and image-analysis software, 5 representative fields at ×400 magnification were chosen from each case. The blood vessels were counted for the entire tissue surface, and the vascular surface was calculated.

Results: The study group consisted of 23 FD cases and 19 COF.

Both parameters of vascularity proved to be significantly higher in FD in comparison to COF. The mean number of vessels was 5.81 per HPF in FD and 3.44 in COF (p<0.05). The mean vascular surface area was 24.73 × 103 pixels in FD and 5.2 × 103 in COF, (p<0.0001).

Conclusions: Since vascular surface area was 5 times higher in FD, it can serve as a feature to help in differentiating FD from COF.

Keywords: vascular density, ossifying fibroma, fibrous dysplasia

RADIOThERAPY DIdd NOT HAVE A LONG-TERM INFLUENCE ON THE PULP VITALITY IN PATIENTS WITH INTRAORAL AND OROPHARYNGEAL MALIGNANT TUMORS. A CLINICAL STUDY

Eduardo Rodrigues Fregnani1, Simony Hamoy Kataoka2, Ana Cristina Aló1

Keywords: radiotherapy, pulp vitality, malignant tumors
MANDIBULAR CHRONIC SUPPURATIVE OSTEOMEYLITIS WITH FLORID CEMENTO-OSSEOUS DYSPLASIA: A RARE CASE REPORT
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Florid cemento-osseous dysplasia is a well recognized lesion predominantly affecting middle- to old-aged black women. It is a benign fibrous-osseous lesion, limited to the jaws, typically involving multiple sites and frequently symmetric in distribution. Radiographically, FCOD appears as dense, lobulated masses, often symmetrically located in various regions of the jaws. Histologically, the radiopaque lesions appear to consist of an osteoid and cementum-like material with fibroblasts being associated with the trabeculae of the calcified material. We report the simultaneous occurrence of two such conditions (florid cemento-osseous Dysplasia and chronic osteomyelitis) in one patient, in a case that emphasizes the importance of bone biopsy in establishing the correct diagnosis.

Keywords: women, florid cemento-osseous Dysplasia, chronic osteomyelitis

INDOLEAMINE 2,3-DIOXYGENASE IMMUNOEXPRESSION IN POTENTIALLY MALIGNANT DISORDERS AND SQUAMOUS CELL CARCINOMA OF THE ORAL CAVITY AND LIP
Jorge Esquiche Leon, Luciana Yamamoto Almeida, Cristiano De Oliveira Santos, Amanda Silva Bertasso, Isabela Barbosa Quero, Oral Pathology, Department of Stomatologia, Public Oral Health, and Forensic Dentistry, University of Sao Paulo, School of Dentistry of Ribeirao Preto (FORP/USP), Ribeirao Preto, Brazil; Oral Pathology, Department of Oral Diagnosis, Dentistry School of Piracicaba, University of Campinas (FOP/UNICAMP), Piracicaba, Sao Paulo, Brazil

Objective: Indoleamine 2,3 dioxygenase (IDO), an immunosuppressive enzyme, can be expressed by tumor cells and/or immune cells. Interestingly, IDO immunoexpression in potentially malignant disorders is poorly understood.

Study Design: IDO immunohistochemical analysis was performed on normal lip mucosa (n=15), oral leukoplakia (OL) (n=24), actinic cheilitis (AC) (n=16), oral cavity squamous cell carcinoma (OSCC) (n=17) and lower lip squamous cell carcinoma (LSCC) (n=10).

Results: All OSCC and 20% of LSCC, as well as 33.3% and 12.5% of OL and AC cases, respectively, were IDO positive. All control cases were negative. Only IDO expression in OSCC was statistically significant (P<.05). Scarce IDO positive inflammatory cells in all groups were observed.

Conclusions: High IDO expression possibly contributes with the aggressive behavior and poorer prognosis in OSCC than LSCC. Moreover, IDO expression in OL and AC might indicate the conversion from immune balance to tumor escape, contributing to carcinogenesis.

Keywords: IDO, immunohistochemistry, potentially malignant disorders, oral leukoplakia, actinic cheilitis, squamous cell carcinoma

MSH2 AND MLH1 EXPRESSION IN SOLID/MULTICYSTIC AND UNICYSTIC AMELOBLASTOMAS
Ronell Bologna Molina, Obed Lemus Rojero, Gabriel Tapia, Nelly Molina Frechero, Sabrina Nieves, Alejandro García Muñoz, Rogelio González González, Molecular Pathology, School of Dentistry, Universidad de la República, Uruguay; Oral Pathology, School of Dentistry, Universidad Autónoma de Zacatecas, Mexico; Histology, School of Dentistry, Universidad de la República, Uruguay; Histology, School of Dentistry, Universidad Autónoma Metropolitana, Mexico; Posdoctoral Fellow (PROMEP), School of Dentistry, Universidad Juárez del Estado de Durango, Mexico; Oral Pathology and Medicine, School of Dentistry, Universidad Juárez del Estado de Durango, Mexico

Objective: Mismatch repair (MMR) proteins is a group of nuclear enzymes, which in all proliferating cells participate in repair of base-base mismatch, that occur during DNA replication. Within this system, the MSH2 and MLH1 proteins are the most studied and are highly expressed in normal tissue and their reduced expression has been reported in several tumors. The aim of this study was to determine de expression of MSH2 and MLH1 proteins in the solid/multicystic and unicystic ameloblastoma variants.

Study Design: The immunohistochemical technique was made for MSH2 and MLH1 in 40 ameloblastomas (20 solid/multicystic and 20 unicystic ameloblastomas) and the label index was performed.

Results: Immunohistochemical analysis revealed that the expression of MLH1 and MSH2 was decreased in some tumors, with no significant differences between the histological type or ameloblastoma variant was found. The immunostaining was exclusively nuclear.

Conclusions: Decreased in MMR protein expression suggests its involvement in the ameloblastomas biological behavior.

Keywords: MSH2, MLH1, Ameloblastoma, Immunohistochemistry
TAM’S POLARIZATION AND MMPs EXPRESSION LEVEL ARE CORRELATED TO METASTASIS OF ORAL SQUAMOUS CELL CARCINOMA Kazuo Komiyama, Michisato Okadera, Daisuke Omagari, Yoichi Nishikawa, Masatake Asano, Department of Pathology, Nihon University School of Dentistry, Tokyo, Japan

Objective: Matrix metalloproteinases (MMPs) and tumor-associated macrophages (TAM) play important roles in tumor growth. The present study investigated MMPs expression in relation to TAM localization in the primary and metastatic lesions of oral squamous cell carcinoma (OSCC).

Study Design: Twenty-nine cases of OSCC wherein regional lymph node metastasis were obtained. Serial sections prepared from both primary and metastatic lesions. Each section was subjected to immunohistochemical staining by using anti-CD68, anti-M2, anti-MMP1, anti-MMP2, and anti-MMP9 antibodies.

Results: An inverse correlation of the MMP expression level was observed between primary and metastatic lesion. Higher expression of both MMP2 and MMP9 was observed in the metastatic region. TAM M2 polarization is correlated with the MMPs expression of both MMP2 and MMP9 was observed in the metastatic region. TAM M2 polarization is correlated with the MMPs expression of both MMP2 and MMP9.

Conclusions: Imbalanced TAM M1/M2 polarization pattern and increased synthesis MMPs in cancer cells accelerates tumor metastasis to lymph nodes. Thus, TAM M1/M2 polarization pattern might be a prognostic marker of OSCC.

Keywords: MMP, TAM, SCC, Oral cancer, immunohistochemistry

THE FGFR1 INHIBITOR PD173074 REDUCES OSTEOCLASTOGENESIS IN GINGIVAL SQUAMOUS CELL CARCINOMA Thao Phuong Nguyen, Ajravudh Subarnbhesaj, Matsumi Miyachi, Ikako Ogawa, Takashi Takata, Department of Oral and Maxillofacial Pathobiology, Hiroshima University, Japan

Objective: Squamous cell carcinomas (SCCs) of the gingiva frequently invade the bone. When cancer cells arrive in bone, they alter activity of cytokines and growth factors, which activate proteolytic enzymes in non-neoplastic neighbouring cells to lead bone resorption. Therein, fibroblast growth factors (FGFs) execute diverse functions by binding and activating members of FGF receptor (FGFR) family. This study focused on the role of FGFR1 in bone invasion.

Study Design: Investigate FGFR1 expression in gingival SCCs with or without bone invasion, and role of FGFR1 inhibitor (PD173074), in bone invasion.

Results: FGFR1 expression was significantly high in gingival SCC cases with bone invasion. Treatment of FGFR1 highly expressed cells with PD173074 reduced RANKL, IL-8 expression and several matrix metalloproteinases expression, but induced OPG expression. In addition, PD173074 suppressed osteoclastogenesis in co-culture with bone marrow cells.

Conclusions: FGFR1 inhibitor may suppress bone metastasis in HNSCC through inhibition osteoclastogenesis by reduction RANKL, IL-8 and several MMPs expression.

Keywords: Osteoclastogenesis, squamous cell carcinoma, FGFR1, RANKL, OPG

PRIMARY ORAL TUBERCULOSIS OF THE ORAL CAVITY: A RARE CASE REPORT Mustafa Mert Açıkgöz, Gamze Şenol Güven, Gâlisim Ak, Department of Oral and Maxillofacial Surgery, Istanbul University, Istanbul, Turkey

Tuberculosis (TB) is a major public health problem worldwide. Individuals who exposed to Mycobacterium tuberculosis can develop infection. Primary tuberculosis of the oral cavity is very rare. It is difficult to differentiate with clinical signs and symptoms alone. In our case, 6 years old boy referred to Istanbul University, Faculty of Dentistry, Department of Oral and Maxillofacial Surgery with the painless abscess complaint. After extraction of relevant teeth, abscess didn’t recover. Diagnosis of tuberculosis was proved by microbiological culture and ultrasound imaging. Treatment of tuberculosis consulted with department of pediatrics. The aim of this study is to present multidisciplinary approach to a primary oral tuberculosis.

Keywords: Tuberculosis, lymphadenitis, oral cavity, treatment

QUANTIFICATION OF RADIATION DOSE IN TEETH AND BONES OF THE MAXILLA AND MANDIBLE IN PATIENTS TREATED WITH IMRT FOR HEAD AND NECK TUMORS Claudia Joffily Parahyba1, Cecília Maria Kaill Haddad2, Pedro Agusto Minorin Mendes Ramos3, João Luís Fernandes Da Silva3, Fernando Freire De Arruda2, Ana Cristina Alô Nesrallah1, Eduardo Rodrigues Fregnan1, 1Department of Oral Medicine, Hospital Sírio-Libanês, São Paulo; 2Department of Oncology, Hospital Sírio-Libanês, São Paulo; 3Department of Radiotherapy, Hospital Sírio-Libanês, São Paulo

Objective: Quantify the doses of radiation that reach different groups of teeth and maxilla and mandible in different locations, staging and tumor laterality.

Study Design: Descriptive statistical analysis of the mean and maximum doses and confidence intervals of 95% of the groups of teeth and bones of 30 patients with tumor of the nasopharynx, oropharynx or base of tongue treated with IMRT.

Results: For all tumors we found a higher mean maximum dose in the posterior mandible, with 65.7824Gy, 60.3353Gy and 64.3411Gy respectively. The lowest average maximum dose were found in anterior bone region of the maxilla in base of tongue and oropharynx tumors with 31.6711Gy and 19.1647Gy respectively, whereas tumors in the nasopharynx enter a lower mean maximum dose in mandibular anterior teeth, with 33.0656Gy.

Conclusions: Dosimetric quantification of mean and maximum doses arriving at different oral structures are needed for better oral care and oral rehabilitation of head and neck cancer patients.

Keywords: ‘head and neck cancer’ ‘radiation’ ‘dosimetry’ ‘teeth’ ‘maxilla’ ‘mandible’

THE EFFECT OF DELAYED SCANNING OF STORAGE PHOSPHOR PLATES ON INTER PROXIMAL CARIES DETECTION Ehsan Tavakoli Hosseini1, Fatemeh Nadaf1, Iman Tavakoli Hosseini2, Sara Mohseni1, 1Department of Oral and Maxillofacial Radiology Shahid Sadoghi University of Medical Sciences, Yazd, Iran; 2Department of Oral and Maxillofacial Surgery, Tehran University of Medical Sciences, Tehran, Iran

Objective: The aim of this study was to determine the effect of various scan delays on ability of caries detection and pixel intensity measurements.

Study Design: 45 non-cavitated premolar and molar teeth were radiographed using the storage phosphor plates. Plates were scanned immediately, 10 min, 30 min, 1h, 6h, 24h and 48h after exposure. An aluminum step wedge was used to evaluate the mean gray values (MGVs). Three specialists observed radiographies for detection of caries. The accuracy was compared using...
two-way ANOVA and t-tests. Kappa was used to measure inter and intraobserver agreement.

**Results:** The Azs of immediately scanned plates were higher than that of plates scanned with six delays (p<0.05). MGVs of immediately scanned plates were significantly higher than the plates scanned with six delays in both exposures (p<0.05). Inter and Intraobserver agreement decreased with increasing scan delays.

**Conclusions:** Scanning of PSPs should not be delayed beyond 1 hour for accurate caries diagnosis.

**Keywords:** radiography, dental, digital, storage phosphor plates

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**CONE BEAM COMPUTED TOMOGRAPHY IN ORAL RADIOLOGY**

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**Objective:** In this article we have a review on different applications of CBCT in oral radiology.

**Study Design:** Data were collected from articles available from pubmed, science direct and scopus and cases of private practice.

**Results:** Cone Beam Computed Tomography (CBCT) is a new technology in maxillofacial imaging. CBCT has revolutionized oral and maxillofacial radiology. CBCT has the ability to take high quality images from maxillofacial area, and reconstruct these images into panoramic, axial, sagittal, and coronal planes. The technology is frequently used in craniofacial radiology because of its low radiation dose, high spatial resolution and lower cost compared with CT. CBCT has many advantages over simple panoramic film and digital images, including enabling accurate visualization of head and neck structures.

**Conclusions:** CBCT can be used for many procedures in dentistry, including craniofacial surgery, localization of impacted teeth, orthodontic assessment, oral and maxillofacial pathology, presurgical implant site assessment, surgical guide construction and temporomandibular joint evaluation.

**Keywords:** Cone-Beam Computed Tomography, radiology, dental, radiography

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**NASAL MALIGNANT MELANOMA PRESENTING AS A HUGE MASS**

Nasuh Engin Aydin, Irfan Ocal, Semsettin Karaca, Ataturk Training and Research Hospital, Karabaglar, Izmir, Turkey

A 61-year-old woman who presented with nasal cavity obstruction was suspected of having an inverted papilloma with a possible malignant component following radiologic and clinical work up. An incisional small biopsy of the lesion was diagnosed as malignant melanoma showing diffuse S-100 and HMB-45 positivity along with melanin pigmentation. The greatest dimension of the mass was estimated as 9 cm with MRI. However, detailed investigations could not detect any metastatic focus and detailed dermatologic examination could not find any suspicious melanocytic skin lesion. The patient is alive at the time being, with combined treatment of radiotherapy and chemotherapy following the pathologic diagnosis 5 months ago.

**Keywords:** melanoma, nasal

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**SIGNIFICANCE OF ID-1 EXPRESSION AND ITS ASSOCIATION WITH E-CADHERIN AND N-CADHERIN IN ORAL SQUAMOUS CELL CARCINOMA**

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**Objective:** “Cadherin switch” is major hallmark of Epithelial mesenchymal transition (EMT). Recently a role in EMT has been suggested for Inhibitor of differentiation protein-1 (Id-1). The aim of this study was to investigate the expression of Id-1 and its association with E-cadherin and N-cadherin in oral squamous cell carcinoma (OSCC).

**Study Design:** Tissue sections of 106 primary OSCCs were analyzed by immunohistochemistry for Id-1, E-cadherin and N-cadherin at the invasive front of tumors. Pearson Chi-Square and Fisher’s exact test were used to assess the association between protein expression and clinicopathologic parameters while the association between these proteins was examined by Spearman’s correlation coefficient.

**Results:** Increased cytoplasmic Id-1 expression was associated with lymph node metastasis (P=0.007). Increase in cytoplasmic Id-1 was associated with decreased membranous E-cadherin (P<0.001) and increased cytoplasmic N-cadherin expression (P<0.001).

**Conclusions:** The results of current study, suggest a possible “cadherin switch” occurrence at the invasive front of OSCC and a role for Id-1 in EMT and tumor progression.

**Keywords:** Cadherins, Inhibitor of differentiation protein-1, squamous cell carcinoma

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**A MORPHOLOGICAL STUDY OF TORI IN VARIOUS ETHNIC GROUPS OF MALAYSIAN POPULATION**

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**Objective:** To determine prevalence of tori and study their morphology among various ethnic groups of Malaysian population.

**Study Design:** Cross sectional study to record age, gender, ethnicity, ethnic descent, morphological variations in shape and size, number and location of tori was conducted.

**Results:** 4443 individuals were screened and 630 (14%) were found to have either palatine tori (PT) (76%) or mandibular tori (MT) (7%) or both (17%). Significant difference (p<0.05) in distribution of tori among ethnic Chinese (27%), Indians (50%) and Malays (23%) was noted. Morphological shapes of PT observed were Flat (10%), Spindle (10%), Linear (15%) and Nodular (59%) with up to 6 lobules. MT were located either unilaterally or bilaterally; Nodular in shape (89%) and/or Band like (15%) which is described for the first time.

**Conclusions:** High prevalence and wide variation in morphology of tori among ethnic groups of this region suggest strong influence of genetic and unknown environmental factors as probable aetiology.

**Keywords:** Tori, morphology, ethnicity, palatine tori, mandibular tori
IHC STUDY OF CD34 IN ORAL AND ESOPHAGEAL SQUAMOUS CELL CARCINOMA IN AN IRANIAN POPULATION Fatemeh Shahasvari, Donia Sadri, Marzieh Sedehi, Department of oral Pathology, Dental Branch, Islamic Azad University, Tehran, Iran

Objective: Evaluate and compare expression of CD34 in Oral Squamous Cell Carcinoma (OSCC) and Esophageal Squamous Cell Carcinoma (ESCC).

Study Design: This IHC study was done on 40 paraffin embedded blocks (equal samples, 22 male and 15 female, mean age: 65±13.50). Labeling index was calculated. Statistical analysis was performed by SPSS 16 using Fissure exact and Mann-Whitney tests.

Results: 61% of ESCC and 63.2% of OSCC showed high expression of CD34 (LI>=20%). No significant difference were seen between CD34 expression in OSCC and ESCC (p>0.05). No significant correlations were found among the age, sex, grade and size of the tumors with CD34 expression in ESCC and OSCC except the age and size of OSCC.

Conclusions: High expression of CD34 was found in most of ESCC and OSCC. There were significant correlation among the age and size of the tumors with CD34 expression in OSCC.

Keywords: squamous cell carcinoma, oral, esophageal, ESCC, OSCC, CD34

PREVALENCE OF HEAD AND NECK CANCERS IN IRAN: A TWELVE-YEAR RETROSPECTIVE STUDY Fatemeh Shahasvari, Amin Montahenti, Department of Oral& Maxillofacial Pathology, Dental Branch, Islamic Azad University, Tehran, Iran

Objective: To determine the prevalence of head and neck cancers in Tehran since 1998-2010.

Study Design: This descriptive study was done by extracting all the head and neck cancers data since 1998 to 2010 from Tehran Cancer Registry Center and entering them to Excel 2010 to analyze.

Results: 37,382(8.9%) of 419,794 recorded cancers were head & neck cancers. 61% of these cancers were in men (M/F ratio: 1.1). The most common cancers were BCC (37.3%) and oral cavity cancer (29.3%). Most cancers were found mostly in the 8th decades. The prevalence of these cancers increased annually of all cancers. 61% of OSCC and 63.2% of OSCC showed high expression of CD34 (LI>=20%). No significant correlation were found among the age, sex, grade and size of the tumors with CD34 expression in ESCC and OSCC except the age and size of OSCC.

Conclusions: High expression of CD34 was found in most of ESCC and OSCC. There were significant correlation among the age and size of the tumors with CD34 expression in OSCC.

Keywords: squamous cell carcinoma, oral, esophageal, ESCC, OSCC, CD34

PREVALENCE OF SALIVARY GLANDS LESIONS IN IRAN: A 10-YEAR RETROSPECTIVE STUDY Fatemeh Shahasvari, Mahmoud Khaniki, Mona Farbod, Department of oral Pathology, Dental Branch, Islamic Azad University, Tehran, Iran

Objective: To determine the prevalence of salivary glands lesion.

Study Design: This descriptive study was done by extracting all documents with salivary gland lesion diagnosis in Amir Alam Hospital (referral hospital)-Tehran from 2001 to 2011 to analyze.

Results: 1442 out of 29146 whole lesions were salivary glands lesions. 67.8% (68% benign and 32% malignant) were neoplastic and 32.2% were Non neoplastic. Mean age was 41.1±3.4. 53.3% in male and 46.7% in female (M/F ratio: 1.1). 97.1% and 2.9% of tumors were reported in major and minor salivary glands respectively.

Conclusions: Prevalence of salivary glands lesion was 4.9%. The most common site of tumors is parotid (73.4%). Pleomorphic adenoma was the most common lesion and adenoid cystic carcinoma was the most common malignant tumor.

Keywords: Salivary glands lesions, major salivary glands, parotid, prevalence, IRAN

IMMUNOHISTOCHEMICAL ANALYSIS OF CYCLIND1 EXPRESSION IN SALIVARY GLAND TUMORS Saeed Atarbash Moghadam, Neda Jahan, Sepideh Mokhtari, 1Department of Oral and Maxillofacial Pathology, Dental School of Shahid Beheshti University of Medical Sciences, Tehran, Iran; 2Dental School of Shahid Beheshti University of Medical Sciences, Tehran, Iran

Objective: Salivary gland neoplasms make up 1-4% of all human tumors. CyclinD1 is an essential protein for cell cycle and it has been reported to be overexpressed in a variety of cancers. The present study was performed to evaluate the situation of CyclinD1 in salivary gland neoplasms.

Study Design: Tissue specimens of 15 cases of pleomorphic adenoma and 15 malignant salivary gland tumors including mucoepidermoid carcinoma, adenoid cystic carcinoma and salivary duct carcinoma were examined by immunohistochemistry for CyclinD1 protein. CyclinD1 expression was evaluated based on percentage of stained nuclei in any intensity and was scored in 4 groups.

Results: Twenty-five specimens (83.3%) were negative for this marker and only 3 cases of pleomorphic adenoma and 2 cases of adenoid cystic carcinoma were positive (16.6%). There was no significant difference between benign and malignant salivary gland tumors.

Conclusions: Overexpression of CyclinD1 does not play a role in pathogenesis of benign or malignant salivary gland tumors.

Keywords: CyclinD1, Immunohistochemistry, Salivary Gland Tumors, Cell Proliferation

RAPIDLY ENLARGING GINGIVAL MASS WITH UNUSUAL PATHOLOGIC FEATURES Sepideh Mokhtari, Saeed Atarbash Moghadam, Abbas Khodayari, 1Department of Oral and Maxillofacial Pathology, Dental School of Shahid Beheshti University of Medical Sciences, Tehran, Iran; 2Department of Oral and Maxillofacial Surgery, Dental School of Shahid Beheshti University of Medical Sciences, Tehran, Iran

Squamous cell carcinoma is the most common oral cancer that its clinical & microscopic diagnosis is easily possible. However, we report a case of oral squamous cell carcinoma (OSCC) with unusual clinical and microscopic manifestations that made its primary diagnosis difficult. A 33-year-old man presented with a large pedunculated lesion with smooth lobular surface on the alveolar ridge. The incisional biopsy with clinical differential diagnoses of peripheral giant cell granuloma or peripheral ossifying fibroma was performed. In microscopic sections, large polygonal cells with abundant clear cytoplasm and severe stromal eosinophilic infiltration were present. Giant cells were also observed throughout the lesion. Tumor cells were positive for CK and negative for LCA. Therefore, a diagnosis of undifferentiated carcinoma was made. In excisional biopsy, the
presence of dysplastic overlying epithelium and keratin pearl formation confirmed the diagnosis of SCC. The presence of eosinophils and giant cells in OSCC are discussed.

**Keywords:** Squamous cell carcinoma, giant cell, eosinophil, gingiva

**PRIMARY LYMPHOMA OF THE SUBMANDIBULAR GLAND PRESENTING AS CHRONIC SIALADENITIS**

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Primary malignant lymphoma involving the submandibular gland is rare. A 29 year-old Malaysian air-force personnel presented with a history of an increasing, slightly tender, right submandibular swelling for the past three months. He had no other history suggesting of malignancy such as weight loss, loss of appetite and fever. An initial fine needle aspiration suggested chronic sialadenitis. The CT scan reported a right submandibular space mass with a necrotic centre as well as subcentimetre nodes in the neck, mediastinum and axillary region. Differential diagnosis included chronic sialadenitis, tuberculosis lymphadenitis, salivary gland tumour and lymphoma. It is of utmost importance to perform the necessary staining to exclude lymphoma during histopathological examination.

**Keywords:** Lymphoma, Submandibular gland, sialadenitis

**PRIMARY MULTINODULAR ORAL KAPOSI’S SARCOMA: HIV SERONEGATIVE YOUNG PATIENT: CASE REPORT**

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Oral Kaposi’s sarcoma of a HIV seronegative patient is extremely rare. Here, we present a young patient with a primary lesion in the palatal mucosa as the sole manifestation of Kaposi’s sarcoma. A 27-year-old man was referred to our clinic with a slowly growing dark-purple palatal mass. After an excisional biopsy the diagnosis of Kaposi’s sarcoma was made, with a histological subtype of multinodular variant. Serological tests for HIV-1 and HIV-2 were both negative. At this stage, the disease was restricted, wide surgery was performed; no further therapies such as radiotherapy was planned. No recurrence or metastasis was detected. HIV-1, HIV-2 were both negative. At this stage, the disease was diagnosed as radiotherapy was planned. No recurrence or metastasis was detected. HIV-1, HIV-2 were both negative.

**Keywords:** Kaposi Sarcoma, HIV seraonegative, Oral Mucosa

**EVALUATION OF A FLUORESCENCE SCREENING METHOD IN THE DETECTION OF ORAL PRE- AND MALIGNANT LESIONS**

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**Objective:** The aim of this prospective study was to evaluate the accuracy of VELscope® (VE) and its capacity to assess oral dysplasia and malignancy compared to histopathological examination.

**Study Design:** A total of 135 patients with 170 suspicious oral lesions attending to an oral diagnosis clinic subjected to standard oral examination (OE). Lesions were evaluated with VE, followed by smear and biopsy. The combination of OE and VE diagnoses was assessed and compared to the diagnoses based on the histopathology.

**Results:** Compared to histopathology, the sensitivity of VE was 93.06%, the specificity was 56.12%. The combination of OE and VE findings was significantly correlated with the gold standard, histopathology (Mc Nemar’s test, p=1.0). When compared to histopathology, the sensitivity and specificity of OE+VE were 87.5% and 89.8%, respectively, whereas PPV and NPV were 86.3% and 90.72%, respectively.

**Conclusions:** Combination of OE+VE appear to be effective for aiding the diagnosis of potentially malignant lesions.

**Keywords:** Autofluorescence, VELscope, premalignant lesion, histopathology

**ORAL LIQUID-BASED CYTOLOGY: DEVELOPMENT OF A NOVEL GRADING SYSTEM**

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**Objective:** To develop and evaluate uniform cytomorphological and grading criteria for standardization and diagnostic interpretation of oral trans-epithelial cytology samples.

**Study Design:** Liquid-Based Cytology (LBC) samples of oral high-grade / (pre) cancerous and Class II lesions were obtained by Trans-Epithelial Brushings (TEB) and prepared with Shandon PapSpinTM technology. A modified Bethesda cytological grading system was conceived and correlated with the histopathology of parallel tissue samples.

**Results:** The proposed grading system includes the categories: 1) normal, 2) reactive, 3) atypical probably reactive/low-grade, 4) atypical probably high-grade, 5) high-grade dysplasia, 6) invasive squamous carcinoma. The scoring model discriminates between reactive/mildly dysplastic lesions and high-grade dysplasias/invasive squamous cell carcinomas with 96% sensitivity and 100% specificity.

**Conclusions:** LBC in conjunction with the TEB Technique promises to be an inexpensive, appropriate and easily available screening tool for the early detection of oral (pre) cancers and diagnosis of Class II mucosal lesions, analogous to the time-tested Papanicolaou cervical screening technique.

**Keywords:** Oral cytology, Liquid-based Cytology, Brush biopsy

**ODONTOTGENIC TUMOURS: ANALYSIS OF 3,641 CASES IN SUB-SAHARA BLACK AFRICA**

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**CASES IN SUB-SAHARA BLACK AFRICA**
ORAL AND MAXILLOFACIAL PATHOLOGY

Objective: To analyse documented reports on odontogenic tumours (OT) in sub-Saharan black Africa, and create awareness of the need for more reports.

Study Design: 2,186 African cases of OTs, presented at IAOP congress, Cape Town, South Africa in 1998 were added on to 1,455 cases derived from reports published in the scientific literature from 1998 to date. Analysis undertaken included frequency distribution of available data on OTs listed in the 2005 WHO classification, for each African country.

Results: 3,641 cases from 15 sub-Saharan black African countries were analysed. Ameloblastoma, 80.4% (characterised by late presentations) was overwhelmingly the most commonly reported OT. Nigerian data constituted 46.6% of OT. Odontogenic Mxymoma, 4.42% and KCOT, 3.63% were respectively the second and third most commonly reported. Malignant OTs were less frequently reported (1.04%).

Conclusions: We are of the opinion that OTs are still under reported in black Africa.

Keywords: odontogenic, tumours, subsahara, Africa

PSAMMOMMATOID OSSIFYING FIBROMA OF THE ETHMOIDAL SINUS
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Psammomatoid ossifying fibroma is a rare variant of ossifying fibroma seen in the extragnathic craniofacial bones. We report a case of psammomatoid ossifying fibroma presenting as an ethmoidal mass.

A 52-year-old male patient presented with a complaint of sore throat since one year. Computed tomography revealed a 2 cm hyperdense mass in the left ethmoidal sinus adjacent to the orbital wall. The tumor was resected endoscopically. One year after the surgery another endoscopic resection was carried out because of tumor recurrence at the same location. Microscopic examination of both specimens showed a dense cellular stroma of uniform fibroblastic spindle cells. There were numerous irregular and spherical psammoma body-like ossicles exhibiting various degrees of calcification.

Psammomatoid fibromas are slowly progressive lesions with a tendency of locally aggressive behavior, and recurrence after surgical excision. Prognosis is considered to be good and there are no reported cases of metastasis.

Keywords: ossifying fibroma, psammomatoid, paranasal sinus

COLONIZATION OF VASCULAR CHANNELS BY EPITHELIUM: A MIMIC OF SQUAMOUS CELL CARCINOMA IN THE TONGUE
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Two cases are presented that mimicked squamous cell carcinoma of the tongue both clinically and upon histological evaluation. The patients, both Caucasian males in their sixties, both cigarette smokers, were referred for urgent assessment of lesions described as chronic non-healing ulcers. Histological examination demonstrated a complex proliferation of stratified squamous epithelium as large islands and broad cords extending into the connective tissues from the surface and supported by a coarse fibrous stroma. The epithelium was not particularly atypical but exhibited dyskeratosis. Some distended blood vessels nearby contained emboli of the atypical epithelium and others plugs of fibrin. The surface epithelium was hyperplastic but not dysplastic. While the architecture of the epithelial proliferation resembled squamous cell carcinoma, the extent of the blood vessel involvement was felt excessive to represent true neoplastic vascular invasion. Reported as colonization of blood vessels by stratified squamous epithelium, the patients remain well 6 months after biopsy.

Keywords: oral cavity, tongue, pseudomalignancy, stratified squamous epithelium, colonization of blood vessels, mimic of vascular invasion

CELL PHONE USE AND PAROTID SALIVARY GLAND ALTERATIONS: NO MOLECULAR EVIDENCE
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Objective: To investigate whether cell phone use alters the expression of gene products related to cellular stress.

Study Design: We collected saliva from the parotid glands to assess molecular alterations compatible with cellular stress. The saliva from the gland exposed to cell phone radiation (ipsilateral) was compared to the saliva from contralateral gland, unexposed parotid gland, of 62 individuals. The salivary flow, total protein concentration, p53, p21, reactive oxygen species, and salivary levels of glutathione, heat shock proteins 27 and 70 and IgA were compared between the ipsilateral and contralateral parotids.

Results: No difference was found for any of these parameters when the ipsilateral and contralateral parotid glands were compared.

Conclusions: The exposure of parotid glands to cell phone use does not alter parotid salivary flow, protein concentration or levels of proteins of genes that are directly or indirectly affected by heat-induced cellular stress.

Supported by: FAPEMIG, CNPq and CAPES, Brazil.

Keywords: mobile/cellular phone, cellular stress, parotid gland

CASPASE-7 AS A NOVEL PARTICIPANT IN FUNCTIONAL MOLECULAR NETWORKS DURING ALVEOLAR BONE FORMATION
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Objective: Apoptosis is associated with odontogenesis and osteogenesis, moreover, failures in apoptosis are linked to several disorders. Caspases represent key molecules in apoptosis execution and caspase-3/9 were shown to be essential for dental apoptosis. Notably, caspase-7 was recently documented during differentiation of odontoblasts and ameloblasts (Matalova et al. 2013).
Study Design: In this investigation, activation of caspase-7 was examined in the alveolar bone and osteogenic molecular networks were evaluated in the caspase-7 deficient mice.

Results: Methods of immunohistochemistry were applied to follow the activation pattern. PCR Array to evaluate osteogenic gene expression and microCT to analyse the bone phenotype. In the knock-out mice, decreased alveolar bone volume was found in the adults and decreased mRNA levels for Msx1 and Smd1 in early bone formation.

Conclusions: The results point to caspase-7 as a new participant in alveolar bone formation. Such molecules with dual roles (apoptosis/differentiation) appear attractive also for regenerative medicine.

Support: GACR P302/12J059, CAS M200451201

Keywords: apoptosis, differentiation, alveolar bone

EPIREGULIN (EPR) REDUCES EPIDERMAL GROWTH FACTOR (EGF) RECEPTOR EXPRESSION IN ORAL SQUAMOUS CELL CARCINOMA (OSCC) CELL LINES

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Objective: To elucidate the effects of EPR on the morphology and proliferation of OSCC in the H-series OSCC cell lines.

Study Design: The OSCC cell lines were treated with various concentrations of EPR (1 ng/ml, 10 ng/ml, 20 ng/ml) for 24 and 48 hours. These were compared with untreated controls. Outcome measures were (i) cell morphological changes (ii) cell proliferation and (iii) EGF-receptor (EGFR) expression.

Results: At EPR concentration of 20 ng/ml, there was a significant decline (p=0.049) in the density of EGFR expression after 24-hours but there were no appreciable morphological changes in the cells and their proliferation regardless of the dose of EPR tested nor between the different timelines.

Conclusions: EPR has no effect on the morphology and proliferation of OSCC cells. However, the decline in EGFR expression after EPR treatment suggests that it might play an important role in the regulation of EGFR expression in OSCC cell lines.

Keywords: Epiregulin, oral squamous cell carcinoma, cell lines

MORPHOLOGICAL DIVERSITY OF A TRUE ANEURYSMAL BONE CYST AFTER TREATED AS A CENTRAL GIANT CELL GRANULOMA

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Aneurysmal bone cyst (ABC) is a benign neoplasm of bone which has a destructive and expansive nature. Here we report a case of a large ABC involving almost whole body of mandible which was misdiagnosed and treated as a central giant cell granuloma for a year. Slowly growing, osteolytic-multilocular lesion was diagnosed as a central giant cell granuloma with an inscional biopsy in a different center. Due to the patient’s age and the size of the lesion, corticosteroid injections were planned prior the surgery. After eight injections per week, with the suspicions of surgeons about the nature of the lesion, another inscional biopsy was performed.

Histologically lesion was composed of blood-filled cystic spaces separated by fibrous septa which have numerous multinucleated giant cells, reactive woven bone production and unusual fibroblast proliferation with mild polymorphism. With the diagnosis of aneurysmal bone cyst, wide surgical treatment was performed.

Keywords: Aneurysmal bone cyst, misdiagnosis, mandible

A RARE MAXILLARY SINUS NEOPLASM: FIBROSARCOMA

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Fibrosarcoma, as a malignant mesenchymal neoplasm of fibroblasts, rarely involves the head and neck region. This tumor is essentially a diagnosis of exclusion. A 58-year-old man presented with the chief complaint of dull pain in the upper right region of his face for 3 months duration. On Intra-oral examination involvement of the right side of hard palate was observed. Computerized tomography revealed a destructive soft tissue mass in right maxillary sinus. Based on histopathologic evaluation and immunohistochemical examination of the incisal biopsy for expression of several cell markers, the final diagnosis of fibrosarcoma was made. Subsequently, radical surgery of the tumor was performed. At present, after one year, there is no evidence of recurrence or distant metastasis. We discuss the differential diagnosis regarding other forms of sarcoma with similar morphological appearance and describe immunohistochemical examination which is necessary for proper diagnosis.

Keywords: maxillary sinus, fibrosarcoma, neoplasm

ALTERED EXPRESSION OF HA, HAS1-2 AND HYAL1-2 IN ORAL LICHEN PLANUS

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Objective: To study the expression of hyaluronan (HA), its receptor CD44, synthases (HAS1-3) and degrading enzymes (HYAL1-2) in oral lichen planus (OLP).

Study Design: HA, CD44, HAS1-3 and HYAL1-2 were studied by immunohistochemistry in 55 OLP and 23 control specimens (CTR). The localization and intensity of the epithelial expression were assessed. The statistical significance of the differences between cases and controls were calculated with chi-square test.

Results: The intensity of the HA staining was stronger in the basal layer of the epithelium in OLP than in CTRs. HAS1 and HAS2 staining intensity was stronger in the basal and weaker in the superficial layer of the epithelium in OLP than in CTRs. HYAL1 and HYAL2 immunopositivity was stronger in all layers of the epithelium in OLP than in CTRs.

Conclusions: Altered expression of HA, HAS1-2 and HYAL1-2 in OLP suggests that these molecules could have a role in OLP pathogenesis.
Keywords: Oral lichen planus, Hyaluronan, CD44, HAS1, HAS2, HYAL1, HYAL2

SPLUNC EXPRESSION IN PATIENTS UNDERGOING AUTOLOGOUS HAEMATOPOIETIC STEM CELL TRANSPLANTATION

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Objective: The aim of this study was to analyze flow rate and SPLUNC2 and SPLUNC1 expression in patients who underwent high-dose chemotherapy (HDT) followed by autologous hematopoietic stem cell transplantation (autologous HSCT).

Study Design: A sample of autologous HSCT patients was analyzed. Unstimulated saliva was collected before high dose therapy (HDT), on D+7, and on D+21 and SPLUNC expression was analyzed by western blotting.

Results: Fifteen patients were included in this study. (mean age 46 ± 14), 9 men and 6 women. Densitometry of protein bands showed higher level of SPLUNC2 after transplant on D+7 compared with before HDT and reduction on D+21. SPLUNC1 also increased after transplant on D+7 compared with pre-HDT and reduction on D+21. In addition, salivary flow rate decreased after autologous HSCT.

Conclusions: The present study shows that patients who underwent HDT for autologous HSCT may have changes in SPLUNC2 and SPLUNC1 expression and in salivary flow rate.

Keywords: SPLUNC1, SPLUNC2, autologous hematopoietic stem cell transplantation

INTRADUCTAL PAPILLOMA OF MINOR SALIVARY GLANDS: ITS DIFFERENTIAL DIAGNOSIS FROM PLEOMORPHIC ADENOMA BY IMMUNOHISTOCHEMISTRY

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Objective: Intraductal papilloma (IDP) is considered to be generated by a papillary proliferation of tumor cells with ductal epithelial characteristics in a cystically-dilated ductal space. However, it seems to be rare to encounter such typical cases of intraductal papilloma especially in case they arise in minor salivary glands, where intraoral mechanical stresses affect their histopathological architectures, and thus they are often misdiagnosed as pleomorphic adenomas (PA).

Study Design: To clarify histopathological characteristics of IDP, ten surgical specimens each of IDP vs. PA were investigated by immunohistochemistry.

Results: In IDP, the double-layered cellular arrangement mimicking ducts was clearly demonstrated by keratin (K) 7-positive (+) luminal cells and basal cells which were positive vimentin, calponin, S-100 protein, and P63. In PA, in contrast, most of the tumor cells were positive for K7, vimentin, S-100 protein, P63, and calponin, showing no double-layer arrangement.

Conclusions: These results indicated that intraductal papilloma could be definitely distinguishable from pleomorphic adenoma.

Keywords: intraductal papilloma, pleomorphic adenoma, ductal structures, duct epithelial markers, myoepithelial markers

ORAL LEUKOPLAKIA REVISITED: RETROSPECTIVE ANALYSIS OF 176 CASES

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Objective: Oral leukoplakia (OLEP) is the most common premalignant or potentially malignant lesion of the oral mucosa. OLEP may occur either as a single lesion localised different parts of the oral mucosa or as a diffuse lesion, often multiple.

Study Design: The aim of this retrospective study was to investigate demographic characteristics, clinical and histopathological features of OLEP. Study included 192 patients who were referred to Tumour Pathology Department, Institute of Oncology, Istanbul University with a clinical diagnosis of OLEP between 2004 and 2013.

Results: 15 cases with lichen planus and 1 case with leukokeratosis were excluded from the study group. There were 89 men and 87 women, ranging in age from 22 to 82 years. The most frequent diagnosis was hyperkeratosis (117), followed by oral intraepithelial neoplasia (47) and oral squamous cell carcinoma (12).

Conclusions: High incidence of OSCC indicates the fact that biopsy is a mandatory procedure in the management of OLEP.

Keywords: Oral Leukoplakia, Precancerous, Oral squamous cell carcinoma

HISTOPATHOLOGIC EVALUATION OF THE MAIN SUBTYPES OF ORAL LICHENOID DISEASE. ANALYSIS OF 85 CONSECUTIVE CASES

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Objective: Analyze the histopathologic features of biopsies taken from patients with oral lichenoid disease (OLD) and its main subtypes; oral lichen planus (OLP) and oral lichenoid lesion (OLL).

Study Design: 85 consecutive OLD patients (58 women / 27 men) with a mean age of 57.68 years were analyzed. van der Meij and van der Waal (2003) and Cortés et al. (2009) diagnostic criteria were used.

Results: Clinically 72.9% were OLP and 27.1% OLL and histologically 49.4% were Typical and 50.6% Compatible. Regarding the histopathological data no significant differences were observed between the clinical and histopathological groups. During the follow-up one patient (Clinically OLL and Histologically Compatible) suffered malignant transformation.

Conclusions: Histopathological data cannot differentiate between oral lichenoid disease subtypes. The diagnosis of the disorders grouped as OLD must always be clinicopathologic.

Keywords: oral lichenoid disease, histopathology, subtypes

MOLECULAR CHARACTERIZATION OF ORAL SQUAMOUS CELL CARCINOMA AND DYSPLASIA USING NEXT GENERATION SEQUENCING

Özkan Büyük1, Yeşim Yıldız1, Margarete Odenthal2, Reinhard
Objective: The evolution and progression of oral squamous cell carcinoma (OSCC) is thought to result from the accumulation of genetic alterations. The aim of study is to examine and compare the genetic alterations in oral dysplasia and cancer.

Study Design: The study was conducted on a total of 48 tissue specimens, including 27(OSCC), 10 dysplasia, and 11 hyperplasia. All were subjected to DNA isolation from paraffin embedded blocks and followed by next-generation sequencing (NGS) platform that examined the complete coding sequence of in 18 cancer-related genes.

Results: Six of 11 (54.54%) hyperplasia, 6 of 10 (60%) dysplasia, and 16 of 27 (59.25%) carcinoma specimens showed alterations at least in one gene. PTEN, PI3KCA, KRAS DDR2 was examined. Interestingly, the alterations in ALK and P53 was detected in hyperplasia specimens.

Conclusions: The findings represent the first data on gene alterations in OSCC from Turkish subjects.

Keywords: genetic alteration, hyperplasia, next-generation sequencing, oral dysplasia, oral squamous cell carcinoma

CHARACTERISTICS OF GIANT CELL GRANULOMA LESIONS IN KOCAELI: INVESTIGATION OF 30 CASES

Objective: The giant cell granuloma (GCG) is considered widely to be a nonneoplastic lesion and accounts for less than 7% of all lesions of the jaw. The etiology of GCG is unknown, but it was mentioned in the literature that genetic abnormalities could be responsible.

Study Design: The patients who were referred to Kocaeli University Faculty of Dentistry and diagnosed with GCG in the jaw in between 2012 and 2013 were included in the study. The demographic data of patients and characteristics of GCG were collected.

Results: 30 patients were included in the study. While 8 of 30 originated from central, the rest 22 of others were peripheral. The mandible was more frequently involved than the maxilla and 15 of 22 peripheral, 7 of 8 central GCG occurred in the mandible.

Conclusions: GCG should be followed carefully to rule out recurrence. In this study, recurrence was not observed during the 1-year follow up period.

Keywords: Giant cell granuloma, jaw, recurrence

INTRA OSSEOUS DERMOID CYST IN MAXILLA: A RARE CASE REPORT

Objective: Dermoid cysts are developmental lesions which are believed to be arised from entrapped multipotential cells along the lines of embryonic closure. Intra osseous dermoid cysts are rarely seen in the maxillofacial region. Review of the literature bring out only 13 cases; 7 in madible and 6 in maxilla. The routine panoramic radiograph of 25 years old male showed a cystic lesion extending from root apex of right first molar to right second molars' in the vicinity of maxillary sinus. The lesion was referred to Gazi University Oral Pathology Department with initial diagnosis of odontogenic keratocyst.

Conclusions: The lumen of the cyst lined by keratinised stratified squamous epithelium was full of keratin fibers. Epithelium lacked palisading and reverse polarization. Sebaceous glands were present in the cyst wall.

Keywords: dermoid cyst, odontogenic cyst, maxilla

FNAB OF THE SALIVARY GLAND TUMORS: AN INSTITUTIONAL EXPERIENCE

Keywords: FNAB, salivary gland, tumors

AN UNUSUAL CONVERSION OF ATYPICAL ODONTALGIA TO TRIGEMINAL NEURALGIA: A CASE REPORT

A 43-year-old woman was referred to our dental office with the chief complaint of pain and a history of dental infection. She was provided with antibiotics and root canal therapy (RCT) of tooth 13. After this stage, she complained of a continuous dull pain. This new period of pain resembling atypical odontalgia coincided with RCT. Endodontic retreatment and eventual extraction of the aforementioned tooth was reluctantly performed. Pain migrating from one tooth to another, led to the RCT of adjacent teeth. Gradual conversion of pain to a shooting type radiating to the eye, ala of the nose, neck and temporal region of the same side occurred. Involvement of all branches of trigeminal nerve are rare. The pain had extraloral trigger zones on the ipsilateral labial commissure and body of the mandible. The converted pain was consisted with trigeminal neuralgia. Pregabalin combined with clonazepam reduced the frequency and intensity of pain.

Keywords: Trigeminal Neuralgia, neuropathic pain, Atypical Odontalgia
Objective: The purpose of this study was to investigate the expression of podoplanin and ezrin in ameloblastomas.

Study Design: The expression of podoplanin and ezrin was analyzed in 47 ameloblastomas, by immunohistochemistry. The comparison and association between these proteins were verified by Wilcoxon test and by Spearman’s correlation coefficient.

Results: The majority of tumors (87.2%) exhibited strong membranous expression of podoplanin in the peripheral cells. Cytoplasmic expression of ezrin in the peripheral cells of ameloblastomas was stronger than membranous expression (p<0.000). No statistically significant correlation was observed between podoplanin and ezrin (p>0.05). A statistically significant difference between expressions of membranous podoplanin and membranous ezrin (p<0.000); cytoplasmic podoplanin and membranous ezrin (p<0.000) and cytoplasmic podoplanin and cytoplasmic ezrin expression (p<0.021) was found.

Conclusions: These prove that podoplanin and ezrin are expressed by peripheral cells of the ameloblastomas and suggest a synergic role of both proteins.

Financial Support: FAPESP #2013/16999-7 / #2012/82785-0 / # 2012/13411-6

Keywords: Odontogenic tumor; ameloblastoma, podoplanin, ezrin

EZRIN AND PODOPLANIN EXPRESSIONS ARE ASSOCIATED IN INVASION FRONT OF LIP CANCER

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Objective: The aim of this study was to evaluate the expression of podoplanin and ezrin in 48 squamous cell carcinoma of the lower lip.

Study Design: The association between the podoplanin and ezrin immunoeexpression was performed by chi-square test and by Spearman’s correlation test.

Results: The results showed high membranous and cytoplasmic podoplanin expression in the peripheral cells of the invasive front while ezrin was observed mainly in the cytoplasm of malignant cells. A statistically significant difference was found between podoplanin expression in the peripheral and central tumor cells (p<0.001), as well as in the membranous and cytoplasmic ezrin expression (p<0.001) by malignant cells.

Conclusions: These results reinforce that invasive front cells of squamous cell carcinoma strongly expressed podoplanin and ezrin suggesting a participation of these proteins in the process of invasion in lip cancer.

Financial Support: FAPESP #2013/16999-7 / #2012/13411-6

Keywords: Oral squamous cell carcinoma. Podoplanin. Ezrin

PROMOTER HYPERMETHYLATION OF RASSF1A IS A PREDICTOR FOR POOR SURVIVAL OF PATIENTS WITH SALIVARY ADENOID CYSTIC CARCINOMA IN A CHINESE POPULATION

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Objective: To determine the molecular alterations of RASSF1A in salivary adenoid cystic carcinoma (ACC).

Study Design: Promoter methylation of RASSF1A in 167 ACC and 50 matched tissues were analyzed by BSP and/or MSP. Fifty ACC and matched tissues were tested for LOH and mutation of RASSF1A.

Results: The methylation of RASSF1A was found in 35.3% (59/167) of ACC and associated with the solid pattern (P=0.002) and advanced TNM stage (P=0.014). The methylation of RASSF1A was identified as an independent predictor for overall and disease-free survival (P=0.009, P<0.001) of ACC. LOH of RASSF1A was observed in 18.0% (9/50) of cases. Among 50 patients, those with the methylation and the LOH of RASSF1A concomitantly had the worst over-all survival.

Conclusions: The methylation of RASSF1A is involved in the development and progression of ACC and is a strong independent predictor of the poor survival of patients with the tumor in a Chinese population.

Keywords: adenoid cystic carcinoma, promoter methylation, LOH, mutation

AGGRESSIVE BENIGN MENINGIOMA CONTIGUOUS WITH THE ORAL CAVITY

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Intra-oral meningiomas are rare with only four previous reports. Although benign, they have the potential to be aggressive and to metastasize to extracranial sites (liver, lung and long bones). Previous intra-oral cases have shown meningiomas either arising primarily within the mandible or metastasizing to the hard palate. This is the first report describing contiguous spread of aggressive intracranial meningioma throughout craniofacial tissues and ultimately to the buccal mucosa. A twenty-nine-year-old male presented with a progressively enlarging right facial mass. The diffuse swelling involved the temporal, zygomatic, malar and paranasal area with obliteration of the nasolabial folds. Radiographs and cross-sectional CT and MR imaging showed a diffuse radio-opacity of the right maxilla, maxillary antrum, orbital floor, base of skull and temporal bone. Histologic diagnosis with immunohistochemistry (AE1/AE3, S-100, vimentin, EMA, PR) confirmed a benign meningothelial meningioma (WHO Grade 1). This case highlights the marked propensity for aggressive behavior in benign meningioma.
Keywords: meningioma, extracranial, intra-oral, contiguous spread, aggressive

HYPOXIA INFLUENCE AQUAPORIN 3 (AQP3) AND MIGRATION IN ORAL SQUAMOUS CELL CARCINOMA (OSCC) Tine M. Søland, Camilla Husvik, Christoffer Ballinger, Hilde Kanli Galtung, Department of Oral Biology, University of Oslo, Norway

Objective: Hypoxic conditions are associated with more aggressive tumours. Aquaporins seem to have key roles in tumour biology and we hypothesise that the expression and effect on tumour characteristics are influenced by AQP3 level regulated by hypoxia in OSCC.

Study Design: AQP3-expression in PE/CA-PJ34 and H413 OSCC cell-lines were evaluated by RT-PCR and Western blot. Hypoxia was induced in OSCC cells by 20 hours exposure to 1.0mM CoCl2. RNA and protein were extracted and AQP3 levels were studied by RT-PCR and Western blot. The influence of 1.0mM CoCl2 on wound healing (migration) and proliferation was evaluated. Mean per cent wound closure of groups was compared using t-test for normally distributed data.

Results: Preliminary, AQP3 mRNA and protein were detected in OSCC cells. CoCl2 reduced the expression of AQP3 mRNA, wound healing ability and cell proliferation.

Conclusions: Reduced AQP3 in hypoxic conditions indicate less aggressive OSCC properties.

Keywords: oral cancer, aquaporins, migration, hypoxia

DETERMINATION OF THE GENERAL ORAL HEALTH SITUATION IN THE PATIENTS OF HACETTEPE UNIVERSITY FACULTY OF DENTISTRY: A PILOT STUDY Göksen Akcicek1, Nihal Avcu1, Hattiee Boyacoglu1, Mehmet Sinan Akcicek2, 1Department of Dentomaxillofacial Radiology, Faculty of Dentistry, Hacettepe University, Ankara, Turkey; 2Department of Dentistry, Etilk Züayedye Hanım Women’s Health Teaching and Research Hospital, Ankara, Turkey

Objective: The aim of this pilot study is to investigate the general oral health situations; mucosal lesions, dental anomalies, acquired dental conditions, soft tissue calcifications, bone manifestations in the jaws, tongue pathologies, odontogenic and non-odontogenic cysts, and anatomic variations in a group of patients.

Study Design: This pilot study was conducted at the Hacettepe University Faculty of Dentistry Department of Dentomaxillofacial Radiology in a group of 266 patients, 106 males and 160 females. Participants age, medication, and systemic conditions were also recorded.

Results: The most commonly detected conditions were linea buccalis alba, Fordyce granules, hypodontia, caries, stylohyoid ligament ossification, torus, geographic tongue, radicular cyst, mucus retention cyst and cystic lesion.

There were no significant difference between systemic conditions and oral health situations.

Conclusions: These results have provided baseline information for future comprehensive studies.

Keywords: oral health, mucosal lesion, dental conditions

PERIPHERAL GIANT CELL GRANULOMA ASSOCIATED TO DENTAL IMPLANTS: REPORT OF 4 CASES Zummalı Zorrilla1, Agurne Uribarri2, Mireia Espinosa3, F Javier Elizondo4, Rafael Martinez-Condé1, Juan C. Coca4, Jose M. Aguirre1, 1Oral Medicine and Oral and Maxillofacial Pathology Units. Department of Stomatology II. UFI 11/25. University of the Basque Country. Leioa, Spain; 2Dental clinic Private practice. Barcelona, Spain; 3Klinika Maxilaris Donostia-San Sebastian, Spain

Peripheral giant cell granuloma (PGCG) is a benign reactive lesion relatively frequent in the oral cavity and the precise etiology is controversial. Originates from the periodontal ligament or the periosteum and the clinical presentation is a reddish-purple tumor. It’s more common in the mandible, with a slightly female predilection and it is more often seen in the fifth and sixth decades. Some isolated cases have been described associated to implants.

Cases: Presents four cases of PGCG associated to rehabilitation with implants, 3 female and 1 male, between 45 and 80 years. All the lesions affected the mandible and perimplantari bone loss was evident in all cases. Recurrence of the lesion was observed in two cases and in one case there was a secondary hyperparathyroidism.

Conclusion: El PGCG is a benign reactive tumoral lesion of the periimplantari mucosa that has to be diagnosed, treated and controlled correctly.

Keywords: Peripheral Giant Cell Granuloma, dental implant, recurrence

PRELIMINARY REPORT OF THE EFFECT OF A NEW SALIVA SUBSTITUTE BASED ON CHAMOMILE (MATRICARIA CHAMOMILLA) AND FLAX SEED (LINUM USITATISSIMUM) ON THE ORAL MICROBIOTA OF PATIENTS WITH XEROSTOMIA Blanca Urgía Orellana1, Irene Morales Bozo1, Andrea Cortés Colom1, Carolyn Pérez Prada1, Patricia Palma Fluxa2, Claudia Leñínli Puente3, Gonzalo Rojas Alcayaga4, José Mariáñez Urbina1, Ana Ortega Pinto1, Juan Atikén Saavedra2, Juana Salinas Flores3, 1Faculty of Dentistry, Institute for Research in Dental Sciences, University of Chile, Santiago, Chile; 2Faculty of Dentistry, Department of Pathology and Oral Medicine, University of Chile, Santiago, Chile; 3Peñalolén Health Centre, Eastern Mountain, Santiago, Chile

Objective: To determine the effect of a saliva substitute on the oral microbiota of patients with xerostomia.

Study Design: Total counts of various oral microorganisms were determined in saliva samples from 15 participants at different stages of a randomized, crossover clinical trial, which evaluated the effectiveness of a saliva substitute in xerostomic individuals.

Results: The total counts of Lactobacillus, Streptococcus and Candida spp. tend to decrease after the use of experimental saliva substitute and increase after the use of conventional substitute. 73.7% of patients were carriers of yeast and the most prevalent species was Candida albicans. The diversity of yeast species tends to decrease after the use of the experimental saliva substitute and increase after the use of the conventional substitute.

Conclusions: The new saliva substitute tends to decrease the total count of oral microorganisms and the diversity of yeast species in subjects with xerostomia.

Grant: FONIS SA122207.

Keywords: saliva substitute, oral microbiota, xerostomia.

IL17+ CELLS IN PERIODONTAL DISEASE: ARE THEY T CELLS? Venkata Praveen Babu Parachuru, Dawn E. Coates, Trudy J. Milne, Alison M. Rich, Gregory Seymour, Sir John
Carcinoma Ex Pleomorphic Adenoma of the Salivary Glands: A Clinicopathologic Analysis of 361 Cases in a Chinese Population

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Objective: To analyze the clinicopathologic characteristics and prognostic factors of carcinoma ex pleomorphic adenoma (Ca-ex-PA) of the salivary glands.

Study Design: The clinicopathologic parameters of 361 patients with primary Ca-ex-PA of the salivary glands from our 2001-2012 cohort were retrospectively reviewed.

Results: 191 tumors were invasive carcinoma, 76 minimally invasive, and 94 non-invasive. Adenocarcinoma, not otherwise specified (ANOS) and myoepithelial carcinoma were the most common malignant subtypes. Follow-up information was available for 334 patients. Minimally and non-invasive carcinomas had preferable prognosis. Age, T stage, invasiveness, histological grade, and N stage were found to be significantly associated with disease-specific survival (p < 0.05). Invasiveness, N stage, and T stage contributed to the prediction of disease-specific survival (p < 0.05).

Conclusions: The majority of tumors are invasive carcinoma, and ANOS and myoepithelial carcinoma are the most common malignant subtypes. Invasiveness, N stage, and T stage are the most important factors for predicting prognosis in Chinese patients with Ca-ex-PA.

Keywords: IL17, FOXP3, Periodontal Disease, Tregs, Th17 cells

Synovial Sarcoma of the Lip

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Synovial sarcoma accounts for up to 10% of all soft-tissue sarcomas, showing specific chromosomal translocation. Oral cavity is an unusual site for this tumor (tongue is the most common in oral region). To our knowledge, this is the first report of a synovial sarcoma of the lip. A 50-year-old Japanese woman presented with a chief complaint of swelling and a slowly enlarging mass of the lower lip. Intraoral examination revealed a localized soft mass (19 mm x 11 mm) covered by intact mucosa in the mucolabial fold region. Excisional biopsy revealed features of biphasic synovial sarcoma including spindle cells with oval hyperchromatic nuclei and epithelioid-like round cells interspersed in a connective tissue stroma. In some areas a herring bone pattern was seen. Immunohistochemical analyses showed positive for vimentin, cytokeratin (AE1/AE3, CK7 and CK19), CD99 and bcl-2. The 36-month follow-up examination after surgical treatment showed no evidence of local recurrence or metastasis.

Keywords: synovial sarcoma, immunohistochemistry, lip, sarcoma

Human Papilloma Virus Type 16 Infection in Oral Squamous Cell Carcinoma With Lymph Node Metastasis

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Objective: The objective of the present investigation was to clarify relationship between HPV-16 infection and oral squamous cell carcinoma (OSCC) with lymph node metastasis (LNM).
Study Design: We submitted 130 formalin-fixed, paraffin-embedded OSCC specimens for DNA extraction (30 specimens of OSCC with LNM; 100 specimens of OSCC without LNM). HPV infection was detected by PCR using a HPV type 16-specific primer.

Results: Eight (26.7%) of 30 primary tumors (PT) were positive for HPV-16 DNA, 3 (10.0%) of 30 PT with LNM were positive, and 43 (43.0%) of 100 tumors were positive.

Conclusions: The present investigation indicates that HPV-16 infection rate of OSCC with LNM was lower than that of OSCC without LNM. In the case of OSCC with LNM, HPV-16 infection rates of both PT and LNM were lower. It is suggested that OSCC associated with HPV infection has a lower incidence in LNM. Therefore, it appears that HPV infection may be a diagnostic indicator of metastasis.

Keywords: HPV, oral squamous cell carcinoma, metastasis, diagnosis

NOVEL CYTOKINES IN THE PATHOGENESIS OF ORAL MUCOSAL LICHEN PLANUS Ramya Javvadi, Venkata Parachuru, Trudy Milne, Gregory Seymour, Alison Rich, Sir John Walsh Research Institute, Faculty of Dentistry, University of Otago, New Zealand

Objective: Oral mucosal lichen planus (OMLP) is a complex immunological disorder of skin and oral mucosa, mediated in part by the release of cytokines by activated T-cells. The aim of this study was to identify the presence of novel cytokines such as IL17, IL33 and IL35 in OMLP tissues. IHC staining was performed on 12 OMLP and 10 non-specific inflammatory (NSI) archival tissues using antibodies against IL17, IL33 and IL35 using immunohistochemistry (IHC).

Study Design: IHC staining was performed on 12 OMLP and 7 non-specific inflammatory (NSI) archival tissues using antibodies against IL17, IL33 and IL35. Quantitative and qualitative analysis was performed.

Results: Preliminary results showed the presence of IL17+, IL33+ and IL35+ cells in both OMLP and NSI tissues. More IL17+ and IL35+ cells were present in control tissues than in OMLP tissues, while IL33+ cells are relatively more common in OMLP. IL33 staining was observed in the basal layer of the epithelium in both OMLP and in the controls.

Conclusions: These results suggest a possible role for these cytokines in the pathogenesis of OMLP.

Keywords: Lichen planus, IL33, IL35, IL17

H3K9ME3 BINDING TO THE DNA PROMOTER CAUSES THE INACTIVATION OF EDNRB GENE IN ACC TUMORS Rong Hui Xia, Chun Ye Zhang, Yu Hua Hu, Ting Gu, Li Zhen Wang, Jiang Li, Department of Oral Pathology, 9th People’s Hospital, Shanghai Jiao Tong University, School of Medicine, Shanghai Key Laboratory of Stomatology, Shanghai, P.R. China

Objective: To study whether the epigenetic mechanisms cause the silence of EDNRB (endothelin receptor type B) gene, a new candidate tumor suppressor in salivary adenoid cystic carcinoma (ACC).

Study Design: Protein expression of EDNRB, DNA methylation and histone H3 lysine 9 trimethylation (H3K9me3) of EDNRB gene were detected in a total of 33 paired ACC tumors and adjacent normal tissues by Western Blot, methylation-specific PCR (MSP) and chromatin immunoprecipitation (ChIP) respectively.

Results: 60.61% (20/33) ACC samples showed lower EDNRB expression than that in normal tissues. EDNRB promoter hypermethylation rate in ACC was not significantly higher than that in normal tissues (51.52% versus 40.00%, p = 0.721). However, significantly higher frequency of H3K9me3 binding to EDNRB promoter was found in ACC samples than that in normal tissues (96.97% versus 54.55%, p = 0.000).

Conclusions: H3K9me3 might play an important role in inactivation of EDNRB gene and cause the tumorigenesis of ACC tumors.

Keywords: salivary adenoid cystic carcinoma, methylation, histone H3 lysine 9, trimethylation

PAX9 EXPRESSION IN POTENTIALLY MALIGNANT DISORDERS AND EARLY STAGE SQUAMOUS CELL CARCINOMA OF THE ORAL CAVITY Timothy John Bates, Renna Mahsoob, Peter Thomson, Philip Sloan, Max Robinson, Ralf Kist, Centre for Oral Health Research, Newcastle University, Newcastle, UK

Objective: PAX9 is a transcription factor that regulates epithelial differentiation. PAX9 is progressively lost during oesophageal carcinogenesis and is thought to act as a tumour-suppressor. The role of PAX9 in the formation of oral squamous cell carcinoma (OSCC) and its precursors, oral potentially malignant disorders (OPMD), is unknown.

Study Design: PAX9 expression was determined by immunohistochemistry in 199 oral mucosal biopsies, including normal oral mucosa, OPMD and OSCC. Staining was quantified by image analysis. Data were correlated with patient and clinicopathological parameters.

Results: PAX9 expression was down-regulated in OPMD and OSCC compared to normal epithelium (p<0.05). However, OPMD with high levels of PAX9 expression were more likely to undergo malignant transformation to OSSC.

Conclusions: PAX9 down-regulation in OPMD/OSSC is consistent with its role as a tumour-suppressor. In OPMD, elevated PAX9 expression was associated with transformation to cancer. Deregulated PAX9 appears to have a pivotal in oral carcinogenesis and may be stage dependent.

Keywords: PAX9, oral cancer, oral potentially malignant disorders, oral carcinogenesis, oral squamous cell carcinoma

EXPRESSION OF P16 IN ORAL SQUAMOUS CELL CARCINOMA, POTENTIALLY MALIGNANT DISORDERS AND NORMAL MUCOSA Manohari Muniswamy, Rajasekaran Sudharsan, Uma Devi K. Rao, Elizabeth Joshua, Kannan Ranganathan, Department of Oral and Maxillofacial Pathology, Ragas dental college and hospital, Chennai, India

Objective: To study the expression of p16 in normal mucosa (Group I), oral submucous fibrosis (OSF, Group II), epithelial dysplasia (Group III) and oral squamous cell carcinoma (OSCC, Group IV), by immunohistochemistry.

Study Design: Study comprised of 10 cases in Group I and 20 cases each in the remaining groups. Positive control used was squamous cell carcinoma of uterine cervix.

Results: p16 expression positivity was seen in 50%, 35%, 5% and 15% of group I, II, III and IV, respectively. p16 tissue localisation in basal and suprabasal layers showed a significant difference between the groups. Of 7 OSF cases that showed p16 expression, 4 cases showed suprabasal staining and 5 cases showed nuclear and cytoplasmic staining.

Conclusions: p16 suprabasal staining in OSF, suggests that p16 could be used as an early marker of malignant transformation.
and based on the staining pattern we postulate that it could indicate HPV infection.

Keywords: p16, OSF, OSCC, Epithelial Dysplasia

INTRAORAL CARCINOMA CUCINULATUM, CHALLENGING DIAGNOSIS OF TWO CASES Fabian Ocampo Acosta1, Beatriz Catalina Aldape Barrios2, Alejandro Seamanurias Pacheco3, Edgar Ramiro Méndez Sanchez1, Paris Astrid Mier Maldonado1, 1Department of Oral Pathology, Faculty of Dentistry, Autonomous University of Baja California, Tijuana, Mexico; 2Department of Oral Pathology, Faculty of Dentistry, National Autonomous University of Mexico, Mexico DF

Carcinoma cuniculatum (CC) is a distinct variant of oral squamous cell carcinoma (OSCC). The tumor was first described by Arid in 1954 and has been reported in skin, penis, esophagus, abdomen, sole and palm. Oral CC was first described by Flieger and is now considered as a new malignant neoplasm of epithelial origin variant characterized by cuniculatum architecture, which is similar in appearance to rabbit burrows, and formed by keratin-filled branching crypts and keratin cores. Despite the lack of cellular atypia, oral CC shows an aggressive local behavior; some other entities like verrucous carcinoma, orthokeratinized odontogenic cyst and keratocystic odontogenic tumor could be mistaken either clinically or histopathologically. Two cases involving anterior maxilla and mandible of intraoral CC are presented. A reliable medical record, oral examination, imaging, surgical findings, histopathology and immunohistochemistry panel are of help to achieve correct diagnosis and avoid any delay of treatment.

Keywords: Carcinoma cuniculatum, verrucous carcinoma, odontogenic cysts, odontogenic tumors, oral cavity, jaws

PRIMARY MALIGNANT MELANOMA OF THE NASAL CAVITY Tulay Basak1, Ozben Yalcın1, Deniz Tuncel1, Rabia Yakar1, Berna Ustun Coskun2, Fevziye Kabukcuoglu3, 1Department of Pathology, Sisli Hamidiye Etfal Education and Research Hospital, Istanbul, Turkey; 2Department of Head and Neck Surgery, Sisli Hamidiye Etfal Education and Research Hospital, Istanbul, Turkey

Carcinoma cuniculatum (CC) is a distinct variant of oral squamous cell carcinoma (OSCC). The tumor was first described by Arid in 1954 and has been reported in skin, penis, esophagus, abdomen, sole and palm. Oral CC was first described by Flieger and is now considered as a new malignant neoplasm of epithelial origin variant characterized by cuniculatum architecture, which is similar in appearance to rabbit burrows, and formed by keratin-filled branching crypts and keratin cores. Despite the lack of cellular atypia, oral CC shows an aggressive local behavior; some other entities like verrucous carcinoma, orthokeratinized odontogenic cyst and keratocystic odontogenic tumor could be mistaken either clinically or histopathologically. Two cases involving anterior maxilla and mandible of intraoral CC are presented. A reliable medical record, oral examination, imaging, surgical findings, histopathology and immunohistochemistry panel are of help to achieve correct diagnosis and avoid any delay of treatment.

Keywords: Carcinoma cuniculatum, verrucous carcinoma, odontogenic cysts, odontogenic tumors, oral cavity, jaws

MAXILLARY PARosteAL OSTEOSARCOMA: REPORT OF A CASE WITH UNUSUAL RADIOGRAPHIC APPEARANCE AND LONG-TERM FOLLOW-UP Sara Mehrabi1, Pouria Motahhary2, 1Department of Oral Pathology, Dental School, Zanjan University of Medical Sciences, Zanjan, Iran; 2Department of Oral Pathology, Dental School, Tehran University of Medical Sciences, Tehran, Iran

Parosteal osteosarcoma is an uncommon malignancy of the bone that rarely affects the jaws. A 26-year-old woman presented with 6 months history of painless swelling on the left side of the maxilla in lateral incisor/canine area. Panoramic radiograph revealed no evidence of any distinct lesion of maxillary bone and teeth in that region. The lesion was treated by local excision as a peripheral tumor. Excisional biopsy microscopic examination showed a neoplastic tissue representing chondroblastic osteosarcoma, surrounded by thick capsule. After 4 months the patient returned with enlarging swelling on the same region of previous surgery. Computerized tomography revealed a soft tissue mass causing erosion of the alveolar process and anterior wall of the maxillary sinus. Segmental resection of the maxilla and adjuvant chemotherapy with reconstruction treatment was performed. The patient was under close follow-up and at present, after 2 years is free of recurrence and in a good health status.

Keywords: Osteosarcoma, Bone tumor, Jaw lesion

OSTEOBLAST-DERIVED OSTEOPONTIN INCREASES THE Proliferative RATE OF ORAL SQUAMOUS CELL CARCINOMA CELLS IN VITRO Lucas Novaes Teixeira1, Larissa Moreira Spinola de Castro Raucci2, Roger Rodrigo Fernandes3, Ricardo Della Coletta1, Adalberto Luiz Rosa4, Paulo Tambusco De Oliveira5, 1Department of Oral Diagnosis, School of Dentistry, State University of Campinas, Piracicaba, Brazil; 2Department of Morphology, Physiology and Basic Pathology, School of Dentistry of Ribeirao Preto, University of Sao Paulo, Ribeirao Preto, Brazil; 3Department of Oral and Maxillofacial Surgery, Faculty of Dentistry, Gaziosmanpasa University, Tokat, Turkey; 4Department of Oral and Maxillofacial Radiology, Faculty of Dentistry, Ankara University, Ankara, Turkey; 5Department of Pathology, Faculty of Medicine, Gaziosmanpasa University, Tokat, Turkey

Introduction: Peripheral giant cell granuloma (PGCG) is a relatively frequent benign and also the most common giant cell lesion of the oral cavity. In terms of the treatment the most important problem of these lesion is recurrence phenomena.

Case: A 32-year-old female patient was referred to our surgery clinic with upper right jaw pain and also with history of several surgical giant cell lesion operations. She had no systematically any illness. We operated the patient with partial maxillectomy. We also used the frozen section procedure during the surgery. We completed the operation after taking notice from the pathologist that the surgical margins were clean.

Conclusion: One of the challenging problem for surgeons is struggling with the recurrence of PGCG lesion. In our case reported above that she was operated with using several curettage methods. So, sometimes it requires radical surgical approaches that we used in this case.

Keywords: benign tumor, giant cell granuloma, maxillectomy
of Oral and Maxillofacial Surgery and Periodontology, School of Dentistry of Ribeirao Preto, University of Sao Paulo, Ribeirao Preto, Brazil

**Objective:** This work aimed to investigate the effect of osteopontin (OPN) secreted by human osteoblastic cells (SAOS-2) on cell proliferation of a human squamous cell carcinoma cell line (SCC9).

**Study Design:** SCC9 cells were plated on Transwell® and cocultured with SAOS-2 at the time of OPN peak expression (day 10 of SAOS-2 culture). SCC9 cells exposed to SAOS-2 with over 90% inhibition of OPN expression by RNAi, and SCC9 cells grown alone were used as controls. After 24h, SCC9 cells were fixed and processed for immunofluorescence assay to detect Ki-67 antigen. The percentage of Ki-67-positive cells (proliferative cells) out of the total number of DAPI-stained nuclei was determined under epifluorescence at X20 objective.

**Results:** SCC9 cells cocultured with SAOS-2 exhibited a significantly higher proliferative rate compared with both controls (Kruskal-Wallis, \( p < 0.05 \)).

**Conclusions:** This result points toward a positive effect of osteoblast-derived OPN on the mitogenic activity of squamous cell carcinoma cells in vitro.

**Keywords:** osteopontin, oral cancer, cell culture, squamous cell, osteoblast cell, proliferation rate

**SECRETED OSTEOPONTIN FROM HUMAN OSTEOPLASTIC CELLS REGULATES THE INVASIVE CAPACITY OF AN ORAL SQUAMOUS CELL CARCINOMA CELL LINE**

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**Objective:** The aim of this study was to evaluate the effect of osteopontin (OPN) derived from human osteoblastic cells (SAOS-2) on the invasive potential of human squamous cell carcinoma cells (SCC9).

**Study Design:** SCC9 cells were plated on Transwell® coated with Matrigel and cocultured with SAOS-2 at the time of OPN peak expression (day 10 of SAOS-2 culture). The controls were SCC9 cells exposed to SAOS-2 cultures with over 90% inhibition of OPN expression by RNAi, and SCC9 cells grown alone. After 24 h, the remaining cells on the upper surface of Transwell® were completely removed and the cells on the opposite surface were stained with toluidine blue and counted using a X20 objective.

**Results:** SCC9 cells cocultured with SAOS-2 exhibited a higher invasion percentage compared with controls (Kruskal-Wallis, \( p < 0.05 \)).

**Conclusions:** In conclusion, OPN secreted by osteoblastic cells may positively modulate the potential of invasion of carcinoma cells in vitro.

**Keywords:** Oral Cancer, Osteopontin, Osteoblast, Coculture, Invasion
ODONTOGENIC TUMORS: 56 CASES DIAGNOSED OVER 20 YEARS AT BASKENT UNIVERSITY ANKARA HOSPITAL

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Objective: This study describes the demographic and clinical presentation, and pathological characteristics of odontogenic tumors seen at Baskent University Pathology Department.

Study Design: The study was carried out by retrospectively analysing 56 cases diagnosed from 1994 to 2014. Data concerning gender, age, and lesion location were collected. The final diagnosis in each case was based on the 2005 histopathological classification of odontogenic tumors.

Results: Malignant odontogenic tumors were not seen in these series. The mean age was 40.2 years (range of 8-79), with a male to female ratio of 1.7:1 for benign odontogenic tumors. Benign tumors comprised 46.4% of the cases keratocystic odontogenic tumors, 28.6% of ameloblastomas, and 17.8% compound type odontomas with the remaining tumors depicting a prevalence of 7.2%. The other tumor types were ameloblastic fibroma, ameloblastic fibro-odontoma, and cementoblastoma.

Conclusions: Keratocystic odontogenic tumors were more frequent than in most previous studies.

Keywords: Keratocystic odontogenic tumors, ameloblastoma, odontoma, ameloblastic fibroma

AMELOBLASTIC CARCINOMA IN A BRAZILIAN POPULATION: A COLLABORATIVE STUDY OF 23 CASES

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Objective: To describe clinicopathological and immunohistochemical data about ameloblastic carcinoma from a Brazilian population.

Study Design: Records from five Brazilian Pathology Services were gathered. Slides were immunostained for cytokeratins (7,8,14,18,19), and Ki-67.

Results: There were 23 patients. The male: female ratio was 1:0.5, mean age was 47±17 years (range: 21-71) and maxilla: mandible ratio was 1:1.5. Recurrences were seen in 30.4% of patients. Metastatic disease appeared in six cases (35.0%), being cervical lymph nodes the most common location (4/6), followed by lung (2/6). Death of disease was seen in about 30.0%.

Immunohistochemical staining has revealed that tumors are focally positive for CK-7, CK-8, CK-18 and diffusely positive for CK-14, CK-19. The mean counting of Ki-67 positive cells from ten high power fields reached up to 478 positive cells/field.

Conclusions: This study showed that high level of proliferation and hypercellularity are distinct histopathological aspects of ameloblastic carcinoma, supporting its aggressive nature.

Keywords: Ameloblastic carcinoma, odontogenic tumors, malignant odontogenic tumors, ameloblastoma, immunohistochemistry

ADENOID AMELOBLASTOMA: CLINICO-PATHOLOGICAL FEATURES AND ALLELIC LOSS EVALUATION OF THREE CASES

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Objective: To describe clinicopathological, immunohistochemical data and allelic loss of three cases of adenoid ameloblastoma.

Study Design: Clinic-pathological data were gathered from medical records. Slides were immunostained for cytokeratins, and Ki-67. Allelic losses were evaluated on PCR products by fluorescence capillary electrophoresis.

Results: Mean age was 40.7±12.4 years and maxilla: mandible ratio and female: male ratio was 2:1. Evolution time was about 20 months and patients always complain of asymptomatic swelling. Several recurrences were diagnosed in two patients, for which high levels of allelic loss were observed. These patients received craniofacial resections, and one of them was considered out of therapeutic possibility. Immunohistochemically, the tumors are focally positive for CK7, 8, 14 and 18, and diffusely positive for CK-19. The mean counting of Ki-67 positive cells from ten high power fields reached up to 129 positive cells/field.

Conclusions: These results put in evidence a more aggressive nature of this particular variant of ameloblastoma.
Keywords: ameloblastoma, adenomatoid ameloblastoma, adenomatoid odemaloblastoma, allic loss, ameloblastic carcinoma, immunohistochemistry, diagnosis

ALLELIC LOSS IN AMELOBLASTOMAS AND AMELOBLASTIC CARCINOMAS Adriano Mota Loyola¹, Ricardo Santiago Gomez², Carolina Cavalieri Gomez³, Thiago Fonseca Silva³, Paulo Rogério De Faria¹, Sergio Vitorino Cardoso⁴, Ana Lúcia Amaral Eisenberg⁵, Fernando Luiz Dias⁶, Luciana Castro⁷, Suzana Orsini Machado Souza⁸, ¹Department of Oral and Maxillofacial Pathology, Universidade Federal de Uberlândia, Uberlândia (MG), Brasil; ²Department of Oral Pathology, Universidade Federal de Minas Gerais, Belo Horizonte (MG), Brasil; ³Division of Pathology, Instituto Nacional de Cáncer, Rio de Janeiro (RJ), Brasil; ⁴Division of Head and Neck Surgery, Instituto Nacional de Cáncer, Rio de Janeiro (RJ), Brasil; ⁵Department of Oral Pathology, Universidade de São Paulo, São Paulo (SP), Brasil

Objective: To comparatively evaluate frequency of allelic loss (FAL) in 3p, 9p and 17p chromosomal regions in ameloblastic carcinomas(CA) and ameloblastomas(AM). Study Design: FAL was evaluated in 14 CA and 13 AM by using capillary electrophoresis.

Results: The FAL for AM and CA were 26.0% and 50.4%, respectively. Mean FAL in chromosome 3, 9 and 17 were 21.4%, 29.2 and 20.0% for AM, and 46.4%, 59.0% and 66.8% for CA. Mean FAL in chromosome 3, 9 and 17 were 21.4%, 29.2 and 20.0% for AM, and 46.4%, 59.0% and 66.8% for CA. Higher FAL in CA than AM point allelic loss as an important phenomenon in CA pathogenesis and biological behavior.

Keywords: Ameloblastic carcinoma, ameloblastoma, allic loss, loss of heterozigosity, prognosis, diagnosis

ALVEOLAR BONE NECROSIS RELATED TO THE USE OF A DEVITALIZING PASTE IN PRIMARY TEETH: A CASE REPORT Ceren Güney Tolgay¹, Barak Çankaya², Elif Sepe³, Gamze Aren⁴, ¹Faculty of Dentistry, Department of Pediatric Dentistry, Istanbul University, Istanbul, Turkey; ²Department of Oral and Maxillofacial Surgery, Istanbul University, Istanbul, Turkey

Introduction: Devitalizing agents were commonly used in the past while performing a pulpotomy in primary teeth. This case report presents a severe alveolar bone necrosis resulted from the leakage of a devitalization paste into the periodontium.

Case: A 9-year-old boy was referred to Istanbul University, Faculty of Dentistry, Department of Pediatric Dentistry, 3 weeks after the pulpotomy of maxillary left primary molars using a devitalising paste. Clinical examination revealed loss of soft tissue and bone necrosis surrounding primary molars, which showed increased mobility. Physiological root resorption of the primary molars was observed radiographically. Primary molars were extracted and the sequestrum separated from the surrounding healthy bone was removed. The remaining defect was covered with iodoform gauze for 1 week. Maxillary permanent premolar tooth germs were preserved to be monitored during follow-ups.

Conclusion: Because of the hazardous effects of devitalizing agents, practitioners should abandon its use.

Keywords: devitalising paste, pulpotomy, primary tooth, root resorption

CYTOPATHOLOGICAL DIAGNOSIS OF ORAL PEMPHEGIS VULGARIS: REPORT OF 2 CASES Senem Döleık Güler¹, Sevâhan Mutlu Güner¹, Şemâk Özçelik Yalçınkaya¹, Fatma Canan Alatı¹, ¹Istanbul University, Institute of Oncology, Department of Oncological Cytology, Istanbul, Türkiye; ²Marmara University, Faculty of Dentistry, Department of Oral Radiology, Istanbul, Türkiye

Pemphigus vulgaris is a rare but potentially life-threatening autoimmune disease, involving both mucosa and/or skin. Oral pemphigus is caused by antibodies against desmosomes of mucosal squamous cells. Disruption of these intercellular bridges results in a loss of cohesion between squamous cells; named achingyolysis. This process gives rise to the development of multiple blisters that easily rupture, leaving behind painful, erosive areas of oral mucosa. Two patients with oral pemphigus are presented. The first case is a 40 years old female, with erythematosus, erosive areas and lichen planus-like white radials on both buccal mucosa for four months. The second case is a 44 years old female, with erythematosus, ulcerated, painful lesions on the mucosa of left cheek, lower lip and soft palate, for one year.

Keywords: Pemphigus vulgaris, oral mucosa, cytopathology

CYTOPATHOLOGICAL DIAGNOSIS OF A SYNOVIAL CYST OF THE TEMPOROMANDIBULAR JOINT (TMJ): CASE REPORT OF A RARE ENTITY Sevîchan Mutlu Güner¹, Senem Döleık Güler¹, Cemil İşler², Bertan Buyan², Esin İkem Kuri³, Fatma Canan Alatı¹, ¹Istanbul University, Institute of Oncology, Department of Oncological Cytology; ²Istanbul University, Faculty of Dentistry, Department of Oral Maxillofacial Surgery, Istanbul, Türkiye

Synovial cysts usually occur on the wrist, foot or knee and are rarely involved in the temporomandibular joint (TMJ). Only 14 cases of synovial cyst in TMJ are reported in literature. They are caused by an increase in the intra-articular pressure due to trauma or an inflammatory process, resulting in a herniation of the joint. Males are more frequently affected. The most common clinical features are local pain, swelling and dysfunction. Image studies reveal the cystic mass, but a definitive diagnosis can be made cytopathologically and/or histopathologically. A case of synovial cystic lesion in the TMJ of a 25 years old female is presented. The patient complained about the swelling in her left TMJ, accompanied by a headache. A cystic lesion was observed in CT scanning and intra-articular MR images. Fine needle aspiration of the lesion revealed synovial cells and macrophages; features consistant with the diagnosis of synovial cyst.

Keywords: Temporomandibular joint, synovial cyst, cytopathological diagnosis

ALTERED TASTE SENSATIONS AMONG TOBACCO AND ALCOHOL USERS - A COMPARATIVE STUDY Gnanambigai Kalaimani, Rooban Thavarajah, Elizabeth Joshua, Uma Devi K. Rao, Kannan Ranganathan
Department of Oral and Maxillofacial Pathology, Ragas Dental College, Chennai

**Objective:** Alteration of taste leads to change in dietary habits with systemic consequences. Tobacco and alcohol users are known to have altered taste sensations (TS). Here we ascertain the pattern of altered TS in tobacco and alcohol users in our institution.

**Study Design:** Four groups: group A (no habits, n=25), group B (smokers and alcohol users, n=25), group C (smokers, alcohol and tobacco chewers, n=25) and group D (alcohol users with tobacco chewing, n=25). Taste strips for sweet, salt, sour and bitter at four concentrations were used to ascertain the taste threshold as and high (1) to low (4). Data collected was analyzed by chi-square test in SPSS v.16.0.

**Results:** Between groups A, B, C and D the threshold levels for sweet, salt were not altered while the threshold level for sour (p=0.02) and bitter (p=0.005) was significantly increased.

**Conclusions:** Our study shows that tobacco and alcohol adversely affects the sour and bitter threshold.

**Keywords:** Taste sensation, Tobacco, Alcohol, Threshold level

**WILSON’S DISEASE: IS PULP AFFECTED?** Taha Emre Köse1, Onur Dincer Köse2, Hülya Cakar Karabas3, Merve Soluk Tekkeşin1, 1Department of Dentomaxillofacial Radiology, Istanbul University, Istanbul, Turkey; 2Department of Oral and Maxillofacial Surgery, Istanbul University, Istanbul, Turkey; 3Department of Tumour Pathology, Institute of Oncology, Istanbul University, Istanbul, Turkey

Wilson’s disease (WD) is an autosomal recessive disorder which was first described as hepatocellular degeneration by Kinnier Wilson in 1912. WD is caused by mutation in ATP7B gene. Defective biliary excretion of copper causes the accumulation of copper in the organs, including liver, brain, kidney, and cornea. This accumulation leads to organ damage. A 28-year-old male patient, diagnosed as WD 12 years ago, was referred to our clinic for periodontal complaints. After clinical examination, two molar teeth were extracted and sent to the pathology department for microscopic evaluation. The teeth were decalcified in 10% formic acid solution for two weeks. The decalcified specimens were embedded in paraffin and cut into 5 μm thick sections on charged slides. The sections were stained with orcein to detect mineralization. The teeth were then referred for surgical operation. Histopathologically, the diagnosis was hyperplastic dental follicle. The purpose of the present report was to present the radiographic and histopathologic features of a case of pericoronar radiolucency associated with the distoangularly oriented impacted right MnP2, and aplasia of its antimere was detected. The patient was then referred for surgical operation. Histopathologically, the diagnosis was hyperplastic dental follicle. The purpose of this report was to present the radiographic and histopathologic features of a case of pericoronar radiolucency associated with an impacted MnP2 and to describe one of the DAP.

**Keywords:** Wilson’s disease, pulp, impacted tooth

**ODONTOGENICTUMOURS: A MULTICENTRIC RETROSPECTIVE STUDY OF 2000 CASES IN TURKISH POPULATION** S. Elif Gültekin1, Burcu Sengüven1, Emre Baris1, Özlem Ozer Yücel1, Merve Soluk Tekkeşin2, 1Department of Oral Pathology, Faculty of Medicine, Adana, Turkey; 2Department of Pathology, Gazi University, Ankara, Turkey; 3Department of Tumour Pathology, Institute of Oncology, Istanbul University; 4Department of Pathology, Gölhane Military Medical Academy, Ankara, Turkey; 5Department of Pathology, Faculty of Medicine, Çukurova University, Adana, Turkey; 6Department of Pathology, Faculty of Medicine, İzmir Katip Çelebi University, Turkey

**Objective:** Data from different countries show significant differences in frequency of odontogenic tumors, which were derived from epithelial, ectomesenchymal and/or mesenchymal remnants of tooth-forming apparatus.

**Study Design:** Current study describes the epidemiology and clinical presentation of odontogenic tumors from five pathology services from Turkey. The classification was made according to 2005 WHO histological classification.

**Results:** A total of 2000 odontogenic tumor cases retrieved from the archival files between 2002 and 2012 were retrospectively analyzed for gender, age, tumor site and relative frequency of tumor types. Of these tumors only 0.37% was malignant. Keratocystic odontogenic tumor was the most frequent type (57.2%), followed by odontoma (16.7%), and ameloblastoma (15.08%). The mean age of the patients was 35.09 and the male/female ratio was 1: 0.92. Mandible posterior was the most frequent location.

**Conclusions:** The present study confirms the frequency of keratocystic odontogenic tumor and ameloblastoma which are not rare in Turkish population.

**Keywords:** epidemiology, odontogenic tumors

**PERICORONAL RADIOLUCENCY ASSOCIATED WITH AN IMPACTED PREMOLAR TOOTH** Ulkem Aydin1, Ufuk Ateş2, Burcu Sengüven1, 1Department of Dentomaxillofacial Radiology, Baskent University, Ankara, Turkey; 2Department of Dentomaxillofacial Surgery, Baskent University, Ankara, Turkey; 3Department of Oral Pathology, Faculty of Dentistry, Gazi University, Ankara, Turkey

Aplasia of the mandibular second premolar (MnP2), anomalous distal inclination of the contralateral MnP2 bud and delayed tooth formation is one of the dental anomaly patterns (DAP). In addition, the odontogenic tissue around the impacted tooth has the propensity to differentiate into a wide variety of pathological lesions. Detection of such pathologic lesions usually requires removal of the tooth and the lesion. A systemically healthy 16-year-old female patient attended our clinic for follow-up of her impacted tooth. On the panoramic radiograph, a pericoronar radiolucency associated with the distoangularly oriented impacted right MnP2, and aplasia of its antimere was detected. The patient was then referred for surgical operation. Histopathologically, the diagnosis was hyperplastic dental follicle. The purpose of the present report was to present the radiographic and histopathologic features of a case of pericoronar radiolucency associated with an impacted MnP2 and to describe one of the DAP.

**Keywords:** dental anomaly patterns, hyperplastic dental follicle

**BISPHOSPHONATE INDUCED MANDIBLE BONE OSTEONECROSIS IN A PATIENT WITH PROSTATE CANCER** Ahmet Gülcan Yılmaz1, Serdar Altınıay2, 1Novafertil, Department of Urology, Konya, Turkey; 2Bağcılar Training and Research Hospital, Department of Pathology, Istanbul, Turkey

In large series, the incidence of bisphosphonate-associated osteonecrosis is 65% in the lower jaw, 26% in the upper jaw and 5% in both jaws. Androgen-deprivation therapy and third-generation bisphosphonate zoledronic acid treatment was initiated to a 64-year-old patient with metastatic prostate cancer. During the 36th month of treatment the patient presented with swelling of the lower jaw and was diagnosed and treated for abscess. Pain persisted for three months despite the treatment. On physical examination, open wound of the oral mucosal was observed. Computer tomography showed a lesion consistent with bone
necrosis in the lower jaw’s fovea sublingual region. The diagnosis of necrotic bone was made by observing areas characterized by empty osteocyte lacunae in pathological examination. Although it is suggested that oral hygiene education benefits in reducing the risk of bisphosphonate related osteonecrosis, still the risk of developing it is present.

Keywords: Bisphosphonate, mandible, bone, osteonecrosis

BIPHASIC MALIGNANT TUMOR OF HYOPHARYNX: SYNOVIAL SARCOMA? Serdar Altınay1, Salih Aydin2, Ümit Taşkıın2, 1Başçığar Training and Research Hospital, Department of Pathology, Istanbul, Turkey; 2Başçığar Training and Research Hospital, Department of Ear&Nose&Throat, Istanbul, Turkey

Oropharyngeal synovial sarcoma is extremely rare. We present a 44 year old male patient with a lesion elongating through the hypopharynx. The patient was admitted with a 3-4 months history of hoarseness, difficulty of swallowing and pain in the right ear. Physical examination revealed a 3 × 3 cm mass in the left tonsil causing partial obstruction of the hypopharynx. Partial pharyngectomy and left functional neck dissection were performed. Neoplasms of biphasic morphology were found in the microscopic evaluation of the specimen. Tumor cells showed strong CK7, CK19 and EMA immunoreactivity and Bcl-2, CK5 / 6 and p53 focal staining. S100, CD99, CD31, CD34 staining were negative. Based on its features, this case was reported as a synovial sarcoma like biphasic malignant tumor. Synovial sarcoma should be considered in the differential diagnosis of oropharyngeal region tumors. Genetic analysis is recommended in order not to face a diagnostic dilemma.

Keywords: Hypopharynx, synovial sarcoma, biphasic tumor

THYROID FOLLICULAR CARCINOMA METASTASIZED TO THE PARANASAL SINUS, LUNG AND BONE, SHOWING EXTENSIVE CLEAR CELL MORPHOLOGY Serdar Altınay2, Ümit Taşkıın3, Salih Aydin2, Mehmet Faruk Oktay2, 1Başçığar Training and Research Hospital, Department of Pathology, Istanbul, Turkey; 2Başçığar Training and Research Hospital, Department of Ear&Nose&Throat, Istanbul, Turkey

Follicular thyroid carcinoma metastasis to the paranasal sinuses is extremely rare. A 68-year-old female patient presented with a history of 2 months of swelling and loss of vision in her left eye. Brain MRI revealed a 68 × 39 × 53 mm irregular-margin soft tissue lesion with malign characteristics that showed intense homogenous contrast enhancement. It was mainly localized in the left nasal cavity extending into the left orbit and invading the clivus and sella. Biopsy showed tumor cells of extensive clear cell morphology adjacent to the nasal mucosa. In immunohistochemical studies, diffuse Pan CK staining cells did not show immunoreactivity with GFAP, CD10 and EMA. Immunohistochemistry for thyroid transcription factor-1 (TTF-1), thyroglobulin was markedly positive. The characteristics of this case are consistent with follicular thyroid carcinoma metastasis. Beside morphologic and immunohistochemical findings, clinical findings are also important in differentiating clear cell tumors morphology.

Keywords: Thyroid follicular carcinoma, metastasis, paranasal sinus, lung, bone, clear cell morphology

SUSPECTED RECURRENCE IN PATIENT DIAGNOSED WITH SQUAMOUS CELL CARCINOMA OF THE MANDIBLE: ACTINOMYCES INFECTION Serdar Altınay1, Şenay Yalçın1, Ahmet Cemal Aykıt2, 1Başçığar Training and Research Hospital, Department of Pathology, Istanbul, Turkey; 2Kemerburgaz University, Medical Faculty, Department of Aesthetic Plastic Surgery, Istanbul, Turkey

Lower lip cancer constitutes 88-98% of the lip cancers. It is a common malignancy of the head and neck region seen mostly in 50 to 60 years old men. The relapse rate is 5% and the second primarily development is also 5% seen after treatment. A 60-year-old male patient presented with left mandible recurrence one year after being diagnosed with lower lip squamous cell carcinoma. Two years later, bone and soft tissue material of the same region were examined with the recurrence suspicion. All the material microscopic examination revealed. Evidence of primary and / or metastatic neoplasms was not observed. PAS stained Actinomyces infection was noticed between the trabecular of the bone tissue. In practicing oncologic pathology it is important not to focus only on the tumor but to keep in mind the possible presence of non-tumor lesion.

Keywords: Recurrence, squamous cell carcinoma, mandible, actinomycoses infection

HISTOPATHOLOGICAL DIVERSITY OF PAROTIDECTOMY MATERIALS IN TURKISH POPULATION: RETROSPECTIVE ANALYSIS OF 136 CASES Serdar Altınay1, Ümit Taşkıın1, Salih Aydin2, Mehmet Sar3, 1Başçığar Training and Research Hospital, Department of Pathology, Istanbul, Turkey; 2Bakırköy DrSadi Konuk Training and Research Hospital, Department of Ear & Nose & Throat, Istanbul, Turkey; 3Gazi University Faculty of Dentistry Department of Oral Pathology, Ankara, Turkey

Objective: We have aimed to compare the demographic data in parotid tumors with the data in literature.

Study Design: This study was conducted retrospectively on 136 parotidectomy materials operated in our clinic between May 2009-May 2013. Their age, gender, tumor diameter, histopathological diagnosis and surgical margin status were recorded.

Results: The benign cases were 112 (82.4%), while the malignant cases were 24 (17.6%). Warthin tumor was more apparent in males (p<0.05). Pleomorphic Adenoma was detected most frequently among benign pathologies at 61.6% (69/112), while the Warthin Tumor was detected as the second. Mucoepidermoid Carcinoma and Carcinoma ex Pleomorphic Adenoma was detected at equal frequency at 20.8% (5/24) among malign tumors. While the surgical margin was positive in 10 patients among malign tumors (41.7%), all of the benign tumors were negative (p<0.01).

Conclusions: Pleomorphic adenoma was the most frequently reported benign tumor almost in all world literature. Yet, the distribution of malign tumors displayed geographical differences.

Keywords: Salivary gland, parotid, tumors, epidemiology

P16 AND KI-67 EXPRESSION IN HPV RELATED HEAD AND NECK MUCOSAL LESIONS S. Elif Gültekin1, Burcu Sengüven1, Peter Jens Klussmann2, Peter Hans Dienes3, 1Gazi University Faculty of Dentistry Department of Oral Pathology, Ankara, Turkey; 2Giessen University, Faculty of Medicine, Department of Oto Rhino Laryngeology, Giessen,
Objective: The current study has been undertaken to assess the potential role of p16 and Ki-67 expression in human papilloma virus (HPV) related oral, tonsillary and laryngeal lesions.

Study Design: This study was conducted on 71 specimens of oral, tonsillary and laryngeal lesions with 25 dysplasia and 46 papilloma specimens. Specimens were immunohistochemically stained for p16 and Ki-67 proteins. HPV DNA was determined by one step multiplex PCR.

Results: HPV DNA was detected in 33.8% of all lesions. Tonsil and larynx lesions showed significant difference with oral lesions for HPV positivity. p16 over-expression was seen in 56.5% of papilloma and 60% of dysplasia specimens. Dysplasia specimens displayed higher proliferation index than papillomas.

Conclusions: p16 expression may have a value in HPV induced dysplasia lesions. Proliferation index is not related to HPV induced lesions and may be evaluated as an independent marker in dysplastic lesions.

Keywords: human papilloma virus, p16, Ki67, oral dysplasia, papilloma

ASSESSMENT OF BACTERIAL PROFILE OF OSTEONECROSIS IN JAW DUE TO BIPHOSPHONATE USE Gülçin Akca1, Özkan Büyük2, Yeşim Yıldız2, Sibel Elif Gültekin2, 1Department of Medical Microbiology, Gazi University, Ankara, Turkey; 2Department of Oral Pathology, Gazi University, Ankara, Turkey

Objective: The goal of this preliminary study was to assess the bacterial profile in patients with bisphosphonate-related osteonecrosis of the jaw (BRONJ) diagnosed by histopathologically.

Study Design: Samples were collected from 13 patients who met all ascertainment criteria by BRONJ and also other 13 patients without ascertainment criteria (used as control) evaluated by histopathologically, histochemically and microbiologically methods.

Results: Our results indicate that the majority of microbes in affected patients are mostly facultative anaerobes (and lesser amounts of microaerophilic microorganisms, making them ideal organisms for surviving in oxygen-depleted areas of necrotic bone.

Conclusions: Individuals with jaw osteonecrosis harbored different microbial assemblages than nonaffected patients. These findings provide insight into targeted antimicrobial therapy and indicate that qualitative rather than quantitative changes in community composition and biofilm formation are most related to disease or disease-free status which may contribute to pathogenicity.

Keywords: bacterial profile, biphosphonates, osteonecrosis

ONCOCYTIC CARCINOMA OF THE PAROTID GLAND (A CASE PRESENTATION) Arnavaaz Manejki Havewala1, Swarn Arora1, 1Institute of Dental Sciences, Shiksha-O-Anusandhan University, Bhubaneswar, Orissa, India; 2Grant Medical College and Sir J.J. Group of Hospitals, Mumbai, India

A clinically diagnosed Sebaceous Adenoma in the Parotid region, subjected to histopathology, was reported as an Oncocytic Carcinoma, a very rare tumour of the salivary glands. (There are only 41 cases reported in world literature till date). Diagnosis was doubly confirmed by another well-established cancer hospital histopathology centre. The Tumour was well-circumscribed, with lining all around it and was surgically excised in toto. Temporary traction injury to the Facial Nerve, which subsequently recovered, in 4 weeks. Patient is under observation for invasion of the Parotid gland. Patients with small lesions on the face are often treated very casually based on clinical evaluation alone. By and large it usually does not pose much problem. But sometimes these innocent looking lesions can prove to be quite complicated. No lesion related to salivary glands and particularly over the parotid should have a casual approach.

Keywords: Parotid, Oncocytic Carcinoma, Salivary Glands

DIAGNOSTIC AND PROGNOSTIC CORRELATIONS OF IMMUNOHISTOCHEMICAL MARKERS IN AMELOBLASTOMA. QUANTITATIVE ANALYSIS USING IMAGEJ-COLOR DECONVOLUTION METHOD Rima Ahmad Safadi1, Basma Faleh Qudah2, Huda Mahmoud Hammad1, 1Department of Oral Medicine and Surgery, Jordan University of Science and Technology, Irbid, Jordan; 2Ministry of Health, Jordan

Objective: To identify a marker/markers that correlate with clinical behaviour of Ameloblastoma (AB) and with the diagnosis of ameloblastic carcinoma (AC).

Study Design: Immunohistochemical expression of keratins(6,8,16,17,19), maspin, syndecan-1, S-EMA and Ki-67 was investigated in 18 non-recurrent ameloblastomas (NRABs), 6 recurred ameloblastomas with recurrence (RABs) and 5(AC). Digital Images of stained sections were taken, the positive area was measured using ImageJ color deconvolution program. Statistical analysis was performed.

Results: No significant difference of Keratins (6,8,16,17,19), maspin and syndecan-1 expression among study groups was observed. S-EMA pattern and extent significantly differentiated between AB and AC but not between RAB and AC. Ki-67 score significantly differentiated between AB and AC and between AC and RAB (p<0.015; ANOVA/Post Hoc) with a cut off value of 75 positive cells per HPF at 40X:Roc curve.

Conclusions: Clinical aggressiveness and recurrence of AB may be predicted by pattern and extent of S-EMA. Among studied markers, Ki-67 score of <75 cells/HPF demonstrated better correlation with AC.

Keywords: ameloblastoma, prognosis, immunohistochemistry, color-deconvolution, markers

ASSESSMENT OF FIBROBLAST GROWTH FACTOR RECEPTOR 1 AMPLIFICATION IN ORAL SQUAMOUS CELL CARCINOMAS Yeşim Yıldız1, Özkan Büyük2, Margarete Odenthal3, Reinhard Büttner4, Sibel Elif Gültekin2, 1Department of Oral Pathology, Gazi University, Ankara, Turkey; 2Department of Pathology, University of Cologne, Cologne, Germany

Objective: Fibroblast growth factor receptor 1 (FGFR1) amplification was showed in many carcinomas including squamous cell carcinoma of the lung and proved as an important molecular target for treatment of these patients. This study aims to search for FGFR1 amplification in oral squamous cell carcinomas(OSCC) by using two different molecular methods.

Study Design: The study was performed on paraffin blocks that were acquired from 24 patients with OSCC diagnosis according to the WHO grading system. Following DNA extraction procedure, Copy Number Variation by Real-Time Polymerase Chain Reaction(PCR) and Fluorescent In Situ Hybridization (FISH) analysis were applied to search for FGFR1 amplification in OSCC samples.

Results: Among 24 OSCC cases, none of them showed FGFR1 amplification by Real-Time PCR. As well as they are also
found to be negative by FISH analysis, only 3 cases showed polysomy.

**Conclusions:** The study showed the first data for Turkish subjects. Thus, future studies with more OSCC cases are needed.

**Keywords:** FGFRI, FISH, oral squamous cell carcinoma, Real-Time PCR

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**A RARE MUCOCUTANEOUS LESION: VERRUFORM XANTHOMA** Merv a Soluk Tekkeşin¹, Alp Saraňanoğlu², Nâzî Aşıratn, Cüneyt Alâttî², ¹Department of Tumour Pathology, Institute of Oncology, Istanbul University, İstanbul, Turkey; ²Department of Oral and Maxillofacial Surgery, Faculty of Dentistry, Istanbul University, Istanbul, Turkey

Verruciform xanthoma (VX) is an uncommon, benign lesion that occurs in the oral cavity, skin, or genital organs as a verrucous, papillomatous, or flat papule with varying colours. Histopathologically, VX is characterized by acanthosis, hyperkeratosis, and parakeratosis with deep extension of the rete ridges and an associated neutrophilic infiltrate. The accumulation of numerous xanthoma cells (foamy macrophages) are shown in the connective tissue between epithelial ridges. The treatment is conservative excision and no recurrence has been reported. Histopathological examination should be performed carefully to distinguish VX from other verrucous lesions. We report herein a case of VX on the lingual mucosa of a 48-year-old female patient and discuss the clinical, histopathological findings and differential diagnosis.

**Keywords:** verruciform xanthoma, oral mucosa, foamy macrophages

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**ASSESSMENT OF P53 AND BCL-2 PROTEIN EXPRESSIONS IN ORAL LICHEN PLANUS AND ORAL SQUAMOUS CELL CARCINOMA** Merv a Soluk Tekkeşin¹, Alper Sarıhanoglu², Nâzî Aşıratn, Nihan Aksakall, ¹Department of Tumour Pathology, Institute of Oncology, Istanbul University, İstanbul, Turkey; ²Department of Oral and Maxillofacial Radiology, Faculty of Dentistry, Kocaeli University, Kocaeli, Turkey

**Objective:** Malignant transformation is suggested to be a consequence of alterations in cell cycle control, and this potential consequence of alterations in cell cycle control, and this potential

**Study Design:** Bcl-2 and p53 expressions were determined by immunohistochemistry in 100 oral mucosal biopsies including normal oral mucosa (n=20), OLP (n=40) and OSCC (n=40).

**Results:** There were no significant differences in p53 and bcl-2 expressions between OLP and OSCC cases. However p53 expression was higher in OLP and OSCC compared to normal epithelium (p<0.05).

**Conclusions:** The results of this study suggest that the expression of these proteins might be an evidence of the potential of malignant transformation process in OLP. Therefore, there is a need for long term follow-up of patients with OLP to detect any malignant alteration.

**Keywords:** lichen planus, bcl-2, p53, oral squamous cell carcinoma

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**THE COMPARISON OF CLINICAL BEHAVIOUR OF PERIPHERAL AND CENTRAL GIANT CELL GRANULOMA BY IMMUNOHISTOCHEMISTRY** Merv a Soluk Tekkeşin¹, Nihan Aksakall, Sevci han Mutlu Gûnér², Vakur Olgac³, ¹Department of Tumour Pathology, Institute of Oncology, Istanbul University, Istanbul, Turkey; ²Department of Oncological Cytology, Institute of Oncology, Istanbul University, Istanbul, Turkey; ³Department of Plastic and Reconstructive Surgery, Sisli Hamidiye Etfal Teaching and Research Hospital, Istanbul, Turkey

**Objective:** Peripheral giant cell granuloma (PGCG) and central giant cell granuloma (CGCG) of the jaws are benign proliferations of mononucleated cells (MCs) and multinucleated giant cells (MGCs). Despite the histopathologic similarities, they have markedly different clinical behaviour. Therefore, the aim of the study was to compare CGCG with PGCG by immunohistochemistry using Ki-67, osteopontin and integrin αv antibodies.

**Study Design:** 20 PGCG and 20 CGCG were selected for immunohistochemical evaluation in MGCs and MCs of PGCG and CGCG.

**Results:** PGCG showed higher Ki-67 immunoreactivity in MCs compared to CGCG (p<0.05). There was no reactivity with Ki-67 in MGCs of both groups. MCs in CGCGs demonstrated increased osteopontin and integrin αv expressions in comparison with PGCGs (p<0.05).

**Conclusions:** The clinic behaviour of CGCG being more aggressive than PGCG might be explained by the high expression of osteopontin and integrin αv. Further studies are necessary to evaluate the other OPN receptors and their role on the biologic behaviour of these lesions.

**Keywords:** Peripheral giant cell granuloma, central giant cell granuloma, osteopontin, Ki-67

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**A RARE CASE OF ORAL ANGIOLYMPHOID HYPERPLASIA WITH EOSINPHILIA (ALHE)** Özkan Büyük¹, Burcu Sengüven¹, Elif Peker², Seda Çetiner², Melih Özde³, Cemile Öžem Üçk³, Benay Yıldırım⁴, ¹Department of Oral Pathology, Gazi University, Ankara, Turkey; ²Department of Oral and Maxillofacial Surgery, Gazi University, Ankara, Turkey; ³Department of Oto-Maxillofacial Radiology, Gazi University, Ankara, Turkey

Angiolymphoid hyperplasia with eosinophilia (ALHE) is a benign vascular lesion manifested as an intradermal or subcutaneous papules and/ or nodules. It is rare in oral mucosa. It generally occurs in young adults and its etiology and pathogenesis is not clarified yet. We report a 53-years-old female patient presented with a painless, submucosal nodule on the upper lip. An excisional biopsy was carried out after the clinical diagnosis of benign neoplasm. The histopathological analysis revealed well-demarcated nodule characterized by vascular proliferation and inflammatory infiltration which was composed of lymphocytes, and eosinophils. The vascular walls consist of prominent endothelial cells with a histiocytoid appearance, some of which protruded into the lumen. The nucleoli were inconspicuous. There was not any nuclear atypia or mitosis. Laboratory tests did not show eosinophilia. Immunohistochemically the endothelial cells were positive for CD34. The lesion was diagnosed as ALHE.

**Keywords:** angiolymphoid hyperplasia with eosinophilia, oral mucosa

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**LINGUAL OSTEOMA** Feyzüye Kabuıkçuoğlu¹, Tulay Başak², Banu Yılmaz Oğuzven³, Semra Karşıdağ⁴, ¹Department of Pathology, Sisli Hamidiye Etfal Teaching and Research Hospital, İstanbul, Turkey; ²Department of Plastic and Reconstructive Surgery, Sisli Hamidiye Etfal Teaching and Research Hospital, Istanbul, Turkey

Osteomas are slow growing bone neoplasms that usually arise in head and neck region. Tongue is a rare location with
fewer than 100 cases reported. A case of lingual osteoma is presented with a literature review of its clinical features and pathogenesis. A 42 year-old patient referred to the hospital with the complaint of a painless mass on her dorsal tongue present for three weeks. Clinical examination revealed a 1.5 x 1-cm pedunculated firm mass with smooth surface. He had no history of trauma. The mass was excised. Microscopic examination showed well circumscribed sclerotic lamellar bone surrounded by squamous epithelium consistent with osteoma. Lingual osteomas are found mainly on the posterior third of the dorsum of the tongue. The pathogenesis of osteomas remains obscure. One of the proposed theories is post traumatic reaction, similar to myositis ossificans. Developmental malformation and ossification of an embryologic thyroid remnant are other mechanisms proposed.

Keywords: osteoma, tongue, lingual osteoma

NONODONTGENIC TUMORS OF THE JAWS Fevziye Kabukcuoglu1, Aysim Ozagari1, Deniz Tuncel1, Semra Karсидag2, 1Department of Pathology, Sisli Hamidiye Etfal Teaching and Research Hospital, Istanbul, Turkey; 2Department of Plastic and Reconstrcutive Surgery, Sisli Hamidiye Etfal Teaching and Research Hospital, Istanbul, Turkey

Objective: Nonodontogenic tumors of the jaws are examined.

Study Design: Benign and malignant tumors of the jaws diagnosed in our clinic in a 10 year period are presented with their morphological and clinical features.

Results: Fibrous dysplasia consisted of ten cases, eight of them in the maxilla. There were five ossifying fibroma cases, four of them in the maxilla. Three of the four osteomas were in the mandibula. There were two torus palatinus, two giant cell granulomas in the maxilla and an hemangioma involving the mandibula. Four chondrosarcoma cases were located in the maxilla and nasal cavities. There were two cases of osteosarcoma; one involving the mandibula and the other in the maxilla arising from fibrous dysplasia.

Conclusions: Fibrous dysplasia and ossifying fibroma are the most encountered benign lesions. About 5% of the osteosarcomas have been reported in the jaws. Chondrosarcomas of the jaws are also rare and usually involve the maxillofacial area.

Keywords: nonodontogenic tumor, jaws

MESENCHYMAL LESIONS OF THE ORAL CAVITY Fevziye Kabukcuoglu1, Bahar Yilmaz Ozgunen1, Aysim Ozagari1, Tulay Basak1, Berra Uslug Coskun2, 1Department of Pathology, Sisli Hamidiye Etfal Teaching and Research Hospital, Istanbul, Turkey; 2Department of Otorhinolaryngology, Sisli Hamidiye Etfal Teaching and Research Hospital, Istanbul, Turkey

Objective: Mesenchymal lesions of the oral cavity are investigated.

Study Design: In this study 126 mesenchymal lesions histologically diagnosed in our clinic in a 10 year period are presented.

Results: Of the 114 benign mesenchymal lesions; hemangiomas were the most common lesion encountered with 53 cases, followed by traumatic neuroma with 23 cases, 15 lymphangiomatas, 12 peripheral giant cell granulomas, three neurofibromas, two lipomas, two granular cell tumors, one of them congenital, one eometomesenchymal chondromyxoid tumor, a giant cell fibroma, a myxoma, and an osteoma. Low grade or malignant lesions consisted of two myofibroblastic tumors, two low-grade malignant mesenchymal tumors, one Kaposi sarcoma, five embryonal rhabdomyosarcomas, one undifferentiated pleomorphic sarcoma and one high grade leiomyosarcoma.

Conclusions: Mesenchymal lesions of the oral cavity comprise a large number of heterogeneous entities ranging from reactive lesions to neoplasms. Reactive hyperplasias commonly occur secondary to injury. High grade sarcomas of the oral cavity are rare and aggressive.

Keywords: mesenchymal lesion, oral cavity

FINE-NEEDLE ASPIRATION CYTOLOGY OF METASTATIC MERKEL CELL CARCINOMA Billur Cosan Sarbay, Gozde Kir, Cumhur Selcuk Topal, Meryem Dogan, Ayse Nur Ilvan, Department of Pathology, Umraniye Education and Research Hospital, Istanbul, Turkey

Merkel cell carcinoma (MCC) represents a highly aggressive primary cutaneous neuroendocrine malignancy characterized by regional recurrences, lymph node metastases, distant metastases, and high mortality. Fine-needle aspiration cytology of metastatic MCC has been described rarely in the literature; however, it represents to achieve a tissue diagnosis of metastatic merkel cell carcinoma. An 87-year-old-woman patient presented with a 6-cm diameter lymph node in the upper cervical region. An ultrasound guided fine-needle aspiration was performed. For the differential diagnosis immunohistochemistry was performed on cell blocks. Perinuclear “dot-like” cytokeratin 20 (+) / perinuclear “dot-like” cytokeratin (+) / chromogranin (+) immunophenotype was identified. Here, we describe the cytological features of a metastatic MCC of the conglomerated cervical lymph nodes with a possible differential diagnosis. Based on the morphological features coupled with the results of confirmatory immunostains, and a clinical history, a final diagnosis of metastatic MCC to cervical lymph nodes was made.

Keywords: Merkel cell carcinoma - fine-needle aspiration cytology – neuroendocrine carcinoma

ODONTOGENIC CYSTS WITH SEBACEOUS GLANDS: 4 UNUSUAL CASES Nihan Aksakalli, Merva Soluk Tekkeşin, Department of Tumour Pathology, Institution of Oncology, University of Istanbul, Turkey

Jaw cysts with sebaceous elements are unusual. Four cases of developmental odontogenic cyst associated with sebaceous glands are reported. Two of the cases were parakeratinized odontogenic keratocysts (Keratocystic odontogenic tumor) and two were orthokeratotic odontogenic keratocysts (Orthokeratinized odontogenic cyst). Two patients were female and two were male. One of these cases was in the second decade, two were in the third decade and one was in the sixth decade. All cysts were in the mandible. Three of the lesions were located in the posterior region including mandibular ramus; one was located between the right first molar and the left canine teeth, including embedded right canine. Some authors claim that cysts with sebaceous elements are intraosseous counterpart of dermoid cysts and refuse theories of their odontogenic origin. Whereas all of our lesions were odontogenic developmental cysts, we observed sebaceous glands within, subjacent or distant to epithelial lining in some areas.

Keywords: Sebaceous gland, odontogenic cyst, intraosseous dermoid cyst, parakeratinized odontogenic cyst, orthokeratinized odontogenic cyst
GLANDULAR ODONTOGENIC CYST OF MAXILLA: A CASE REPORT

Ailen Palancioglu¹, Cemil Isler¹, Mervat Solak Tekkeşin¹, Mehmet Yaltirik¹, Zerrin Cebi¹, ¹Department of Oral and Maxillofacial Surgery, Istanbul University Faculty of Dentistry, Istanbul, Turkey; ²Department of Tumour Pathology, Institute of Oncology, Istanbul University, Istanbul, Turkey

Glandular odontogenic cyst (GOC) is a rare aggressive developmental cyst of the jaw. GOC occurs more commonly in middle-aged people and has a predilection for the anterior mandible. Radiographically, the lesion presents as either a unicocular or multilocular radiolucency and has high recurrence rate. Histopathologically, the cyst is lined by stratified squamous epithelium that exhibits focal thickenings in which the epithelial cells become a swirled appearance. The cells of the epithelium lining are cuboidal, often with cilia. The clusters of mucous cells are also present. There is considerable overlap between the histomorphologic features of the GOC and the cystic low-grade mucoepidermoid carcinoma, which makes its diagnosis challenging. Because of its potentially aggressive nature and tendency for recurrence, long-term follow-up is essential. This case report represents radiologic-pathologic features and surgical treatment of GOC of the anterior maxilla in a 31-years-old male patient.

Keywords: Odontogenic, Cyst, Glandular, Maxilla

ASSOCIATION OF IMMUNOLOCALIZATION OF EZRIN AND PODOPLANIN IN BENIGN EPITHELIAL AND MIXED ODONTOGENIC TUMOURS

Diego Mauricio Bravo-Calderón¹, Lais Priscila De Santis², Paula Nascimento Antonio³, Kellen Cristine Tjioe¹, Cléerson Teixeira Soares⁴, Denise Tostes Oliveira⁴, ¹Department of Stomatology, Area of Pathology, Bauru School of Dentistry - University of São Paulo, Bauru, Brazil; ²Department of Oral and Maxillofacial Surgery, Akdeniz University Faculty of Dentistry, Antalya, Turkey

Objective: To investigate the association of ezrin and podoplanin expressions in benign odontogenic tumours with and without ectomesenchyme.

Study Design: Immunohistochemistry of ezrin and podoplanin was analyzed in 52 benign odontogenic tumours including 8 ameloblastomas, 12 adenomatoid odontogenic tumours, 18 keratocyst odontogenic tumours (KCOT), 2 calcifying epithelial odontogenic tumours, 3 ameloblastic fibromas, 5 ameloblastic fibro-odontomas and 4 calcifying cystic odontogenic tumours. The association between membranous and cytoplasmic ezrin and podoplanin expressions by epithelial odontogenic cells was determined by Wilcoxon’s test.

Results: Strong cytoplasmic ezrin and membranous podoplanin expressions were found on peripheral epithelial cells in all the odontogenic tumours. Significant differences relative to cytoplasmic ezrin and membranous podoplanin were observed (p=0.002) in KCOT.

Conclusions: These findings suggest that ezrin and podoplanin are regularly expressed by epithelial cells of the odontogenic tumours. Further studies are warranted to elucidate the role of this molecular association on the odontogenic tumor progression.

Financial support: FAPESP #2012/13411-6; #2013/16036-4; CNPq #142790/2011-7

Keywords: odontogenic tumours, ezrin, podoplanin

FOXP3 EXPRESSION IN ORAL AND LARYNGEAL DYSPLASIA

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Objective: In this study, we report the Foxp3 expression levels of dysplasia in oral mucosa and larynx.

Study Design: 78 patients diagnosed with mild-severe dysplasia, carcinoma in situ and squamous cell carcinoma in oral mucosa and larynx were selected. Immunostaining was performed for Foxp3. Staining at least 25% of the dysplastic cells was considered positive for Foxp3 expression. Chi-square test was used for the statistical analysis to analyze the relationship between Foxp3 expression and pathologic differentiation.
Results: Positive expression in dysplastic cells were detected in %21.9 in mild dysplasia, %25 in moderate dysplasia, %21.9 in severe dysplasia, %9 in carcinoma in situ, and %21.9 in carcinoma(p=0.4). Foxp3 expression by dysplastic cells in selected lesions is not statistically associated with pathologic differentiation.

Conclusions: In conclusion, this study demonstrated that Foxp3 was expressed in dysplastic squamous cells but not correlated with pathologic differentiation. However, further studies in larger population are needed to confirm these findings.

Keywords: Foxp3, dysplasia, oral mucosa, larynx

CHALLENGING DIAGNOSIS OF A PALATAL SUBMUCOSAL LESION Barcu Sengül1, Özlem Özer Yuçel1, BENAY YILDıRM1, Sibel Elif Gültakin1, Enure Barsı1, Ömer Günhan2, Nalan Akyürek3, Sevil Kahraman4, Alec High5, 1Department of Oral Pathology, Faculty of Dentistry, Gazi University, Ankara, Turkey; 2Department of Pathology, Gülhane Military Medical Academy, Ankara, Turkey; 3Department of Pathology, Faculty of Medicine, Gazi University, Ankara, Turkey; 4Department of Oral and Maxillofacial Surgery, Faculty of Dentistry Gazi University, Ankara, Turkey; 5Department of Histopathology, St James’s Hospital, University of Leeds, Leeds, UK

Clinical diagnosis of lesions representing as solitary swellings in palatinal mucosa usually points out salivary gland tumors, palatal abscess from periapical lesions, or other neoplasms of maxilla or maxillary sinus. Fifty two years old male patient presenting a firm, solitary asymptomatic mass in hard-soft palate border which he had over 25 years was referred for excisional biopsy. This case report describes a benign palatal neoplasm resembling “pleomorphic adenoma” with unusual histological features presenting with numerous large keratinizing cysts surrounded by squamous epithelium and minimal duct-like structures. There may be different opinions about the histologic appearances of this kind of ancient tumors. In the current case benign keratotic squamous epithelial neoplasia, lipoadenoma (sialolipoma), and dermoid cyst were added.

Keywords: Pleomorphic adenoma, palatal lesion

ATYPICAL DUCTAL HYPERPLASIA AND COLUMNAR CELL HYPERPLASIA OF THE MINOR SALIVARY GLAND: ANOTHER MAMMARY ANALOGUE LESION? Sulen Sarıoğlu1, Merih Güray Durak2, Ersoy Doğan3, 1Dokuz Eylül University, Faculty of Medicine, Department of Pathology, İzmir, Turkey; 2Dokuz Eylül University, Faculty of Medicine, Department of Otorhinolaryngology and Head and Neck Surgery, İzmir, Turkey

A 49-year-old woman presented with a painless of milimetric papillomatous mass at the junction of the soft and hard palate. She had a history for two years. Microscopic examination of the excisional biopsy revealed a lesion mimicking breast lesions; atypical ductal hyperplasia and columnar cell hyperplasia of the acinus lobules. There was proliferation of p63 negative epithelial cells at the ductus and columnar cells were lining some but not all of the acinar structures which were also p63 negative. The ki-67 index was maximum at the ductal region (47%) and lowest at the acinar columnar cells(1%). The patient did not receive further treatment and she is well at 3 years after the operation. The lesions might be other salivary gland lesions analogue to mammary glands.

Keywords: minor salivary gland, columnar cell hyperplasia, atypical ductal hyperplasia

MALIGNANT EXTRA-GASTROINTESTINAL NEUROECTODERMAL TUMOR (GNET) IN SOMATIC SOFT TISSUE-CASE REPORT Nil Çomunolu Ustünada, Bilge Elçin, Sercülen Dervişoğlu, Nesrin Uygun, Department of Pathology, Cerrahpaşa Medical Faculty, Istanbul University, Istanbul, Turkey

The patient is 9-year-old boy who has a neck mass. Mass is situated in the region of the carotid, and the patient has no history of masses elsewhere. Macroscopic examination of mass that 5.5 x 5 x 4 cm diameter and encapsulated. Cut surface is seen yellow-tan colour. Histologic sections show a neoplasm composed of epithelioid cells with a distinctly nested morphology. The lesional cells have oval to convoluted nuclei, and small nucleoli and pale eosinophilic clear cytoplasm. Centrally, the tumor shows a pseudoalveolar and pseudopapillary pattern. Occasional pseudozinclusions are seen. Mitotic count is 1 per HPF. Immunohistochemical stains show that the tumor cells are strongly and diffusely positive for S-100 protein, while HMB45, Melan A, SOX10, TTF1, cytokeratin AE1/AE3, CAM5.2,CK5/6,p63, SMA, desmin, synaptophysin, chromogranin, GFAP and PR are negative. The histologic features are of a malignant nested epithelioid neoplasm that show immunoreactivity but is negative specific melanocytic markers. The morphology is quite reminiscent of clear cell sarcoma-like tumors of the gastrointestinal tract(malignant gastrointestinal neuroectodermal tumor). There are isolated cases in somatic soft tissue.

Keywords: GNET, soft tissue, neck

METACHRONOUS SQUAMOUS CELL CARCINOMA AND PLEOMORPHIC SARCOMA OF THE ORAL CAVITY Sulen Sarıoğlu1, Özlem Birge1, Emel Karpuçoğlu1, Ersoy Doğan1, Fatma Akınan3, 1Dokuz Eylül University, Faculty of Medicine, Department of Pathology, İzmir, Turkey; 2Dokuz Eylül University, Faculty of Medicine, Department of Otorhinolaryngology and Head and Neck Surgery, İzmir, Turkey; 3Dokuz Eylül University, Faculty of Medicine, Department of Radiation Oncology, İzmir, Turkey

A 62 year old woman presented with a mass at the lower anterior alvolar arch, at the mid plane. She had a history of well differentiated squamous cell carcinoma (SCC) at the right lateral border of tongue, treated with partial floor of the mouth resection and hemiglossectomy 22 years. She had not received radiotherapy. At first the biopsy, than the radical surgical specimen including lower lip resection, mentum and submental skin, partial floor of the mouth resection and anterior mandibulectomy revealed a tumor with storiform pattern, pan-cytokeratin, epithelial membrane antigen, CK5/6, p63, actin, desmin, miyogenin, S100, HMB45, CD34 negative; vimentin and CD68 positive. As any epithelial or other differentiation could not be proved, the patient was diagnosed as pleomorphic sarcoma and received radiotherapy. She is well at six months after the operation. This case is interesting for the development of a sarcoma following SCC without a history of radiotherapy.

Keywords: oral cavity, squamous cell carcinoma, pleomorphic sarcoma
IATROGENIC ANGIOMATOUS KAPOSI’S SARCOMA OF THE GINGIVA IN A PATIENT WITH SMALL LYMPHOCYTIC LYMPHOMA/CHRONIC LYMPHOCYTIC LEUKEMIA Sulen Sarıoğlu¹, Sermin Özkal², Güray Akırmak¹, Ersoy Dogan², Mehmet Arıcı³, Fatih Demirkan¹, ¹Dokuz Eylül University, Faculty of Medicine, Department of Pathology, İzmir, Turkey; ²Dokuz Eylül University, Faculty of Medicine, Department of Otorhinolaryngology and Head and Neck Surgery, İzmir, Turkey; ³Dokuz Eylül University, Faculty of Medicine, Department of Hematology, İzmir, Turkey

Fifty year old male patient presented with gingival hypertrophic, purple lesion of 4 cm diameter. He had a history of small lymphocytic lymphoma/chronic lymphocytic leukemia with deletion of 13q14.3; diagnosed 9 months ago. He had received furosemide, retoxicimab and cyclosporin therapy was induced and 6 cures could be admitted. Due to low platelet counts biopsy could be performed at the 3rd month. The biopsy revealed surface mucosal ulceration and a submucosal mass of spindle cells and vascular structures filled with blood cells. There was cellular atypia and few atypical mitosis. HHV8, CD31, CD38, D2-40 were positive and ki-67 index was 29%. Final diagnosis was angiomatous type Kaposi sarcoma (KS). The patient was HIV negative. KS of the oral cavity is most frequent in HIV positive patients but, however exceedingly rara, this diagnosis should be kept in mind in patients in cases receiving chemotherapy for lymphoma.

Keywords: Kaposi’s sarcoma, iatrogenic, gingiva, lymphoma

CHROMOSOMAL INSTABILITY IN ORAL POTENTIALLY MALIGNANT DISORDERS Zaraiza Zaini, Edward Odell, Mahvash Tavassoli, Clinical and Diagnostic Sciences, Dental Institute, King’s College London, UK

Objective: To compare potential routine diagnostic tests for chromosomal instability (CI) in oral epithelial dysplasia.

Study Design: A gene signature based on copy number changes detected by SNP-chip analysis was tested on 20 oral dysplastic lesions with known ploidy status (7 diploid, 13 aneuploid) by QuantiGene® Plex DNA Assay (Affymetrix) and qPCR (Applied Biosystems) using matched normal tissue and cell lines as control. FISH was performed to evaluate CI in chromosomes 3, 7 and 8 using a subset of targets.

Results: Neither QuantiGene®Plex or qPCR accurately measured CI, being dependent on housekeeping gene used for normalisation. Only FISH proved sensitive, detecting 4 out of 12 cases as aneuploid using a combination of 2 targets.

Conclusions: High throughput copy number assessments were unable to assess CI in oral dysplasia. FISH successfully detected CI, but at lower sensitivity than image-based DNA ploidy analysis.

Keywords: Oral potentially malignant disorders, Chromosomal instability, Ploidy analysis, FISH, QuantiGene Plex, real-time PCR

IT IS WORTH STEP SECTIONING IN MINOR SALIVARY GLAND EVALUATION FOR SJÖGREN’S SYNDROME Sulen Sarıoğlu¹, Ülku Kucuk¹, Pinar Çetin², Ismail Sarı², Merih Birlik², ¹Dokuz Eylül University, Faculty of Medicine, Department of Pathology, İzmir, Turkey; ²Dokuz Eylül University, Faculty of Medicine, Department of Rheumatology, İzmir, Turkey; ³Izmir Tepecik Research and Training Hospital, İzmir, Turkey

Objective: In this series the value of step sectioning and plasma cell focus are revisited in a series of salivary gland biopsies.

Study Design: Three step sections at 200micrometer in between, were reevaluated seperately, for both lymphocyte and plasma cell foci, from biopsies of forty-three cases with a diagnosis of scleroderma and suspected of Sjögren’s Syndrome (SS).

Results: Lymphocytic focus was identified in 28(60.2%) cases. If the highest focus score among the three sections was considered, focus score was > =1 in 24(85.7%) cases. Considering both focus scores are diagnostic for SS, the sections with the lowest scores would change the diagnostic category in 11(39.3%) of the cases and the lowest focus score was 0 in 11 cases (39.3%). Plasma cell focus was observed in 6(13.9%) cases, however all had a focus score higher than 1.

Conclusions: These results highlight the importance of step sectioning of the minor salivary gland biopsies.

Keywords: Sjögren’s Syndrome, step sectioning, minor salivary gland biopsy, plasma cell foci.

RETROSPECTIVE STUDY OF TRIGEMINAL NEURALGIA AT FACULTY OF DENTISTRY, CHULALONGKORN UNIVERSITY Kanokporn Blahang, Department of Oral Medicine, Chulalongkorn University, Bangkok, Thailand

Objective: The development of pain in orofacial locations stems from a variety of disorders. The most common neuropathic pain condition in the orofacial area is trigeminal neuralgia.

Study Design: This study retrospectively examined 149 trigeminal neuralgia patients at the Department of Oral Medicine, Faculty of Dentistry, Chulalongkorn University.

Results: The patients’ age range was 20-85 years old. The ratio of females to males was two to one. The most common trigger zone was located at the lower right posterior teeth. One third of the patients had dental treatments performed in the area of chief complaint prior to their visits to the school. Carbamazepine was mostly used for this disorder. The lowest dose that effectively controlled the pain was 200 mg per day. The side effects of the drug were vertigo, nausea, vomiting and decreased white blood cell counts.

Conclusions: Carbamazepine was the drug of choice for trigeminal neuralgia.

Keywords: Trigeminal neuralgia, carbamazepine, retrospective

TUMOR BUDDING IN ORAL CAVITY CARCINOMAS Sulen Sarıoğlu¹, Oguz Çetinayak², Barbaros Aydın², Ersoy Dogan¹, Fadime Akıman³, Ahmet Omer İkiz⁴, ¹Dokuz Eylül University, Faculty of Medicine, Department of Pathology, İzmir, Turkey; ²Dokuz Eylül University, Faculty of Medicine, Department of Radiation Oncology, İzmir, Turkey; ³Dokuz Eylül University, Faculty of Medicine, Department of Otorhinolaryngology Head and Neck Surgery, İzmir, Turkey

Objective: Tumor budding is recognised as a poor prognostic marker in carcinomas, however there are few studies about oral cavity (OC). The prognostic importance of budding is evaluated in a series of OC squamous cell carcinomas (SCC) in this study.

Study Design: Tumor budding was studied in a series of forty-seven OC SCC cases from different sites, with follow up information. The prognostic significance of budding is evaluated.
Results: Budding was observed in 24 (51%) of the cases. It was positive in 5 (50%) pT1, 6 (42.8%) pT2, 5 (55.6%) pT3 and 7 (58.4%) pT4 cases. Twelve (57.1%) pN0, 6 (50%) pN1 and 8 (47%) N2 cases were budding positive (p>0.05). The disease free and overall survival was not related to budding (p=0.73 and p=0.46).

Conclusions: We could not find any relation of tumor budding with clinicopathological prognostic factors and prognosis. The prognostic value of budding seems to be not very strong in OC SCC.

Keywords: budding, oral cavity, squamous cell carcinoma, prognosis

AMELOBLASTIC FIBRO-ODONTOMA: CASE REPORT
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Ameloblastic fibro-odontoma (AFO) is rare benign mixed odontogenic tumour. It is only observed 3.1% of all odontogenic tumors. It occurs usually children and young adults, in posterior portion of the maxilla or mandible. AFO appears as a well-encapsulated, slow-growing expansive tumour. It is defined as a tumour with ameloblastik fibroma but also contains enamel and dentine. We present a case of an 11 years old boy, referred our hospital painless swelling left side of the mandibula. Our diagnoses were AFO. The patient was treated with conservative surgical excision. After one years of follow-up no recurrence was detected.

We report an AFO that was discussed clinical, radiographical and histopathological features and differential diagnosis.

Keywords: Ameloblastic Fibro- Odontoma, mandibula

GEMINATION ON UNERUPTED THIRD MOLAR Beliz Güray1, Hülya Koçak Berberoğlu2, Villak Olaq3, Ilknur Özcan2, Tamer Lüfi Erdem1, 1Department of Dentomaxillofacial Radiology, Istanbul University, Istanbul, Turkey; 2Department of Oral and Maxillofacial Surgery, Istanbul University, Istanbul, Turkey

Gemination is defined as the formation of two crowns from a single tooth. Fusion is defined as the two joined tooth resulting in the formation of a single tooth. Gemination and fusion appear similar but the number of the teeth in the dentition is different. If tooth count is normal, it is called gemination, in fusion two teeth are fused and because of this reason, tooth number is less than normal dentition. A 22 year old female patient attended to Istanbul University for periodontal problems. An unerupted third molar was detected on panoramic radiography by coincidence. Because of the radiographic image, right mandibular third molar tooth was diagnosed as a geminated tooth. The unerupted third molar was extracted and the diagnosis of gemination was verified in histopathologic examination. The purpose of this case report is to present gemination on unerupted third molar which is an uncommon case.

Keywords: Fusion, gemination, unerupted third molar

PTEN, P53, AND KI67 EXPRESSIONS IN KERATOCYSTIC ODONTOGENIC TUMOR AND AMELOBLASTOMA
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Objective: Keratocystic odontogenic tumor (KOT) and ameloblastoma are the most well documented odontogenic tumors that share many clinical features such as aggressiveness and high recurrence rate. To evaluate the roles of two tumor suppressor genes in odontogenic tumors, PTEN and p53 expressions were examined.

Study Design: 35 KOTs and 30 ameloblastomas were examined immunohistochemically with antibodies against p53, Ki67, and PTEN. Their expressions were correlated with clinical and pathological parameters.

Results: Solid ameloblastomas showed significantly higher PTEN expression than unicystic ameloblastomas. 41.6% (n: 5) of unicystic ameloblastomas had no positivity for PTEN whereas peripheral ameloblastomas had the highest immuno-reactivity. All tumors were positive for p53 in varied degrees. Recurrent ameloblastomas and KOTs with daughter cyst showed higher expression of PTEN and p53. The correlations between Ki-76 and tumor suppressor gene expressions were evaluated.

Conclusions: These findings suggest that the PTEN and p53 regulation system might be related to clinico-pathological differentiation of KOT and ameloblastomas.

Keywords: Keratocystic odontogenic tumor, ameloblastoma, PTEN, p53, Ki-67

CYTOPATHOLOGICALLY DIAGNOSED GIANT CELL LESIONS OF JAW BONES AND GINGIVA: CYTOPATHOLOGICAL FEATURES OF THE LESIONS AND MORPHOMETRIC ANALYSIS OF THE GIANT CELLS
Semra Dölek Güler1, Sevçihan Mattu Güner1, Baru Gülker Küseöğlu2, Neye Kahraman2, Asım Dumlu3, Canan Fatma Alatlı1, 1Istanbul University, Institute of Oncology, Department of Oncological Cytology; 2Istanbul University, Faculty of Dentistry, Department of Oral and Maxillofacial Surgery; 3Marmara University, Faculty of Dentistry, Department of Dentomaxillofacial Radiology, Istanbul, Turkey

Objective: Giant cell granulomas of jaws and gingiva have similar cytopathological and histopathological features with brown tumour of hyperparathyroidism. The aim of this study is to investigate the cytopathological features of giant cell lesions morphometrically, for differential diagnosis.

Study Design: The study groups consisted of two cases of each peripheral and central giant cell granulomas, and brown tumour. Number of nuclei, area and circumference of 10 osteoclastic giant cells on fine needle aspiration slides of each patient were analysed morphometrically. The findings were evaluated by Kruskal-Wallis test for statistical significance.

Results: Number of nuclei and area of giant cells in brown tumour were significantly higher than those of giant cells in both peripheral and central giant cell granulomas. Circumferences of giant cells in brown tumour were nearly significantly higher than those in peripheral giant cell granulomas.

Conclusions: Giant cell lesions of jaws and gingiva can be diagnosed cytopathologically and differentiated by morphometric analysis.

Keywords: Giant cell granuloma, brown tumour, osteoclastic giant cells, morphometric analysis
**IMMUNOHISTOCHEMICAL COMPARISON OF CYCLIN D1 AND SHh IN AMELOBLASTOMA AND KERATOCYSTIC ODONTOGENIC TUMOR** Emre Barış, Burcu Şengüven, Özgür Ekinç, Sibel Elif Gültakin, Manuel Koch, 1Department of Oral Pathology, Gazi University Faculty of Dentistry, Ankara, Turkey; 2Department of Pathology, Gazi University Faculty of Medicine, Ankara, Turkey; 3Department of Biochemistry, University of Cologne Faculty of Medicine, Cologne, Germany

**Objective:** The different growth mechanism and biologic behavior of the keratocystic odontogenic tumor (KOT) and ameloblastoma (ABL) compared to other odontogenic cyst and tumors might be related to the proliferating capacity of its epithelium. In this study, the aim was to evaluate and compare the distribution and staining intensity of Shh, cyclin D1 and Ki-67 in ABLs and KOTs.

**Study Design:** Tissue microarray samples of 35 ABLs and 40 KOTs were obtained and stained immunohistochemically.

**Results:** Shh was expressed more intensely in peripheral cells and suprabasal layers in ABLs and KOTs, respectively. The highest expression of cyclin D1 and Ki-67 positive cells were seen in the parabasal layer of KOTs, peripheral cells of follicular ABLs and all layers of unicystic ABL.

**Conclusions:** The aggressive of KOT might be related to the state of expression of cyclin D1 and Shh in the epithelium of this cyst.

**Keywords:** ameloblastoma, keratocystic odontogenic tumor, Shh, Cyclin D1

**CASE REPORTS OF THREE PATIENTS WITH LIPOMAS IN THE ORAL CAVITY** Deniz Tuncel, Tulay Basak, Galcin Eken, Salemyoz Ozdemir, Fevziye Kabukcuoglu, Sisli Hamidiye Efal Education and Research Hospital, Department of Pathology, Sisli, Istanbul, Turkey

Benign soft tissue neoplasms commonly occur in the oral cavity. Lipoma is one of the benign mesenchymal tumors which rarely occurs in the oral mucosa. About 20% of lipomas are seen in the head and neck region among which oral lipomas take place only 1-4% of all lipomas. They occur as slow growing, painless, asymptomatic submucosal masses which can cause speech, mastication and denture problems if only they extend to large sizes. Surgical excision is the proper choice of treatment. In the histopathological evaluation, most oral lipomas are composed of circumscribed mass of mature fat cells with varying number of collagen fibers mixing through the lesion and supporting small blood vessels. Here we present three cases with oral lipomas to emphasize this rare entity.

**Keywords:** oral, lipoma, benign

**AMELOBLASTIC FIBRO-ODONTOMA: A CASE REPORT AND AN ALTERNATIVE APPROACH TO THE PATHOGENESIS OF ODONTOGENIC TUMOURS** Fatma Canan Alatlı, Vakur Olgaç, Nihan Aksakallı, Merve Solak Tekkeşin, Mehmet Ali Erdem, Eda Kaya, Ayşegül Erten, 1Istanbul University, Institute of Oncology, Department of Tumour Pathology; 2Istanbul University, Faculty of Dentistry, Department of Oral Maxillofacial Surgery, Istanbul, Turkey

Odontogenic tumours are neoplasms consisting of odontogenic epithelial and mesenchymal tissues seen in odontogenesis. Mixed odontogenic tumours are relatively rare. Their pathogenesis follow a parallel and very similar pathway to normal odontogenesis. Ameloblastic fibro-odontoma is a mixed odontogenic tumour representing the stage of odontogenesis just before the fully developed tooth, consisting of ameloblasts, odontogenic mesenchyme, dentine, cementum and enamel.

A case of ameloblastic fibro-odontoma in the right maxillary premolar and molar region of a 5 year old male, is presented. A swelling and a fibrotic area was observed in the related toothless mucosa. Radiology revealed a multinodular mass inclosing the germinal permanent teeth and extending to the maxillary sinus. The mass was excised and examined histopathologically. Microscopical appearance showed odontogenic mesenchymal tissue with groups and strings of primitive odontogenic epithelium, differentiating to ameloblastic cells in some areas, and a primitive tooth-like structure consisting of enamel, dentine and cement tissues.

**Keywords:** Odontogenic tumours, odontogenesis, ameloblastic fibro-odontoma, ameloblastic cells

**A DOCUMENTATION OF ODONTOGENIC LESIONS IN TURKEY: 44 CASES Demet Etit, Fulya Çakalagaoglu, Arzu Avci, Fikret Dirilengoğlu, Sedat Ozturkcan, 1Department of Pathology, Izmir Katip Celebi University Ataturk Research and Training Hospital, Izmir, Turkey; 2Department of Otorhinolaryngology, Izmir Katip Celebi University Ataturk Research and Training Hospital, Izmir, Turkey

**Objective:** Odontogenic lesions are cysts or tumors that develop in jawbone or the soft tissues in mouth. Odontogenic cysts are characterized by epithelium lining a collagenous cyst wall. Radicular cyst is the most common odontogenic cyst. Odontogenic tumors derives from epithelial, mesenchymal or mixed elements that are part of the tooth-forming apparatus. Ameloblastoma is the most common odontogenic tumor.

**Study Design:** A retrospective survey of odontogenic lesions was carried out by using related key words on the hospital information management software system between the years 2005-2012 in our institution.

**Results:** A total of 44 patients were found to have odontogenic lesions. 21 of them were female, 23 were male. 22 of them were tumoral and 22 were cystic lesions. The most common tumor and cyst were ameloblastoma (13) and radicular cyst (14), respectively.

**Conclusions:** As in the literature, the most common odontogenic lesions were ameloblastoma and radicular cyst in our series.

**Keywords:** odontogenic lesion, radicular, cyst, tooth, oral, odontogenic tumor

**PRIMARY NON-ODONTOGENIC INTRAOSSEOUS LESIONS OF THE JAWBONES: OUR EXPERIENCE FOR 14 YEARS** Arzu Avci, Demet Etit, Fulya Çakalagaoglu, Ahmet Emre Yenipazar, Department of pathology, Ataturk Research and Training Hospital, Izmir, Turkey
Objective: The jawbones can be the sites of multiple of neoplastic and non-neoplastic conditions. Given the variety of processes affecting this particular anatomic area, formulation of intraosseous lesions diagnoses often can be challenging to the radiologist and pathologist.

Study Design: We review totally 42 cases in between 2000-2014 years and summarize the pathologic features of non-odontogenic neoplastic and non-neoplastic lesions of the jawbones.

Results: This 42 cases were included 1 osteosarcoma, 18 giant cell reparative granulomas, 13 fibrous dysplasia, 2 ossifying fibromas, 2 osteomas, 3 cemento-osseous fibromas, 1 psammomatous ossifying fibromas, 1 cementoblastoma, 1 periapical cemental dysplasia. Detailed patient history, physical examination, laboratory evaluation and histopathologic analyses were discussed.

Conclusions: Although our series reflect a small group in our country, our data base presented in this manuscript is parallel to the English literature. Correct interpretation of the pathologic features of lesions involving the jawbones suggests the diagnosis and improves patient management.

Keywords: Jawbones, non-odontogenic, Intraosseous lesions

A RARE TUMOR: SPINDLE CELL CARCINOMA (SARCOMATOID CARCINOMA) OF MAXILLARY SINUS Serdar Altınay1, Ümit Seza Tetiktur1, Ümit Taşkin2,
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Sarcomatoid carcinoma of maxillary sinus is an uncommon pathology. So far only five cases with maxillary origin have been reported in the PubMed based research. We are reporting a 7th case of spindle cell asquamous cell carcinoma a 62-year old Turkish man who has had a history of heavy smoking since forty years. The patient was admitted with a 3-4 months history of stuffiness and left sided facial swelling. The mass lesion was mainly localized in the maxillary sinus. The cells had a large vesicular nucleus and prominent macronucleoles. Tumor cells showed strong CK5/6 and p63 immunoreactivity and focal Pan CK staining. S100, HMB-45, MART-1, LCA staining were negative. Our case was reported as sarcomatoid carcinoma of maxilla based on these characteristics. As compared to squamous cell carcinoma of maxilla, this variant is associated with poor diagnosis and advanced disease at presentation.

Keywords: Maxillary sinus, sarcomatoid carcinoma, spindle cell squamous cell carcinoma

ANASYMPTOMATIC, COINCIDENTALLY DIAGNOSED LESION IN MAXILLOFACIAL REGION: ADENOID CYSTIC CARCINOMA Esra Yeşilova1, Duygu Yazıcıoğlu2, Mustafa Fuat Açıkalın3, Bağır Adaparan4, Mehmet Özgür Pinarbaşlı5, 1Department of Dentomaxillofacial Radiology, Eskişehir Osmangazi University, Eskişehir, Turkey; 2Department of Oral and Maxillofacial Surgery, Eskişehir Osmangazi University, Eskişehir, Turkey; 3Department of Pathology, Eskişehir Osmangazi University, Eskişehir, Turkey; 4Department of Radiology, Eskişehir Osmangazi University, Eskişehir, Turkey; 5Department of Ear Nose Throat, Eskişehir Osmangazi University, Eskişehir, Turkey

Adenoid cystic carcinoma (ACC) is the third one in malignant salivary gland tumors. The minor salivary glands in palatine region are commonly affected by ACC. Dentists are generally the first choice of patients when they have problems in their mouth. So dental clinics mostly become the first step to examine such kind of intraoral lesions adjacent to the specific anatomic landmarks. This case report aims to present the diagnostic features and clinical characteristics of ACC located at the maxillofacial region evolving out of an asymptomatic intraoral lesion of the 80-year-old male patient who only demanded to renew his removable prosthesis.

Keywords: adenoid cystic carcinoma, maxillary tumor

EXCISION OF BASAL CELL CARCINOMA (BCC) AND RECONSTRUCTION OF THE OF THE EYELID USING A NOVEL TECHNIQUE Shahme Ahamed Farook, Mahesh Kumar, Department of Oral and Maxillofacial Surgery, Northwick Park Hospital, London, UK

Basal Cell carcinoma (BCC) is a common dermatological malignancy affecting head and neck region. We would like to present a case of BCC of the medial eye lid which involved a MDT approach and a novel technique to reconstruct the defect. An 80-year-old male patient was referred with a biopsy confirmed BCC of the lower right eyelid. Mohs micrographic surgery was carried out to excise the lesion. Defect was reconstructed with a glabella flap and a Mitek suture anchor was successfully used to obtain bony fixation of soft tissue to the facial skeleton. Technique involving the mitek screw for local flap/medial canthus as a vector of attachment for the reconstruction of the eye lid has not been reported before. This technique described provides a reasonable alternative to conventional techniques.

Keywords: Mitek suture, Basal Cell Carcinoma, Mohs micrographic surgery, Medial canthus

PHOTODYNAMIC THERAPY (PDT) FOR MULTIPLE BASAL CELL CARCINOMA (BCC) IN THE HEAD AND NECK REGION Shahme Ahamed Farook1, Ahamed Sultan2, Colin Hopper2, 1Department of Oral and Maxillofacial Surgery, Northwick Park Hospital, London, UK; 2Department of Head and Neck Surgery, University College Hospital, London, UK

Gorlin-Goltz syndrome (GGS) is an autosomal dominant inherited disorder characterized by the presence of multiple odontogenic keratocysts and multiple basal cell carcinomas (BCC) along with dental, osseous, ophthalmic, and neurological abnormalities. Early diagnosis is essential as it may progress to multiple aggressive BCC. The number of BCC lesions varies from few to several hundred with diameter ranging from 1-10 mm. These multiple lesions are difficult to manage and require careful assessment and appropriate treatment. Surgical excision, cryotherapy and radiotherapy are possible treatment options but multiple excision sites and significant side effects reduce the efficacy of these treatment modalities. We report a 48 year old patient with GGS with 124 BCC lesions in the head and neck region who was treated successfully with Photo Dynamic Therapy (PDT).

Keywords: Photodynamic Therapy (PDT), Gorlin-Goltz syndrome (GGS), Basal cell carcinoma (BCC)
DESMOPLASTIC FIBROMA OF THE MANDIBLE, A RARE CASE Ülkem Cural1, Özge Çetin1, Nihan Aksakallı1, 1Department of Oral Maxillofacial Surgery, Istanbul University, Istanbul, Turkey; 2Department of Tumor Pathology, Institute of Oncology, Istanbul University, Istanbul, Turkey

Desmoplastic fibroma (DF), a rare benign locally aggressive neoplasm of bone composed of bland spindle cells and abundant collagen. In this report, we present a case of DF in the mandible. Differential diagnosis and treatment strategy are discussed with a literature review. An 11-year-old male patient with swelling and pain complaint in left mandible visited our clinic. As a result of radiological and clinical examination, a well and sclerotic demarcated lytic lesion was detected. A computed tomographic scan demonstrated 3 × 11 cm multifocal expansive lesions at the left mandible. The lesion has excised. As a result of histopathological examination the lesion turned out to be DF. Although we know that recurrence rates raise to 55-72% from 17% when local excision preferred over hemimandibulotomy or segmental resection; to do not disturb the natural maxillofacial skeletal progress. A periodic follow-up is warranted.

Keywords: Desmoplastic Fibroma, Bening Tumor of Jaws, Bone tumors

PLEOMORPHIC HYALINIZING ANGIOMETASTIC TUMOR (PHAT) OF THE MAXILLA Shalme Ahamed Farook, Mahesh Kumar, Vinay Shah, Zaman Mirza, Department of Oral and Maxillofacial Surgery, Northwick Park Hospital, London, UK

Pleomorphic hyalinizing angiectatic tumor (PHAT) is a rare low grade tumour with malignant potential. First described by Smith and colleagues, is a mesenchymal tumour. Commonly encountered in the superficial soft tissues of the distal extremities and features ectatic, fibrin containing vessels with prominent circumferential hyalinization, spindled and pleomorphic stromal cells with intranuclear inclusions and variable inflammatory component. PHAT has never been reported in oro facial region. We present a 65-year-old gentleman who was diagnosed with PHAT following a referral from a General Dental Practitioner with an incidental finding of a radiolucent area in the right maxilla following an Orthopantomogram (OPG). Computer tomographic (CT) imaging confirmed a soft tissue mass with calcification. The lesion was completely excised and histopathological examination confirmed this to be a PHAT. This case report highlights difficulties in establishing definitive diagnosis due to cellular differentiation and pathological features of PHAT and management within the head and neck region.

Keywords: Pleomorphic hyalinizing angiectatic tumor (PHAT), Computer tomographic (CT), Orthopantomogram (OPG)

EXUBERANT INTRAOSSEOUS SCHWANNOMA AFFECTING THE MAXILLA Marisol Martinez Martinez, Luciana Yamamoto De Almeida, Jorge Esquiche León, Oseli Paes De Almeida, Wilson Delgado Azaiheiro, Department of Oral Diagnosis, School of Dentistry of Piracicaba, State University of Campinas

Schwannoma is a common benign nerve sheath tumor that originates from Schwann cells and appears most frequently on the auditory nerve or cutaneous peripheral nerves. In the head and neck region, Schwannomas are frequently located on the soft tissues being that 1 to 12% of them are located in the oral cavity. Intraosseous schwannoma involving the jaws is rare. We present a case of intraosseous schwannoma affecting a 17-year-old female who complained of exuberant swelling in the maxilla 4-year ago. Histopathologically, it was observed a tumoral mass composed of interlacing fascicles of compact spindle cells admixed with scarce clear cells with granular cytoplasm. By immunohistochemistry, S-100 and CD56 was positive, whereas CD34, AML, CD11a, CD68, Glut-1, NF and AE1/AE3 were negative. Ki-67 proliferative index was > 3%. Intraosseous schwannoma should be considered in the differential diagnosis when evaluating tumor masses simulating an aggressive or low-grade malignant neoplasm.

Keywords: schwannoma, maxilla, sheath tumor

CLINICOPATHOLOGICAL AND RADIOGRAPHIC STUDY OF JAW CYSTS IN A TURKISH SAMPLE PATIENTS Ayşe Gülşah1, Ufuk Ateş2, Cansu Köseoğlu3, 1Baskent University Faculty of Dentistry, Department of Dentomaxillofacial Radiology; 2Baskent University Faculty of Dentistry, Department of Maxillofacial Surgery, Ankara, Turkey

Objective: The jaws are host to a wide variety of cysts of both odontogenic and nonodontogenic origin. The aim of this study is to determine the demographic profile of jaw cysts diagnosed both radiographically and histopathologically in a Turkish sample patients.

Study Design: During a four years period, forty three patients(27 male, 16 female, age range 13-89 years) with cystic lesions of the jaws were included in this study. All patients underwent clinical, radiographic and histopathologic assessment.

Results: Forty three patients with cystic lesions of the jaw were successfully diagnosed and treated. Seventeen (11 male, 6 female) were dentigeroes cysts, 14 (10 male, 4 female) were radicular cysts, seven (4 male, 3 female) were residual cysts, three (1 male, 2 female) were keratocystic odontogenic tumours, two (1 male, 1 female) were inccise ducy cysts.

Conclusions: The study provides demographic data, clinical and radiographic features of these lesions in our study population. Most of these cysts were asymptomatic and diagnosed during routine radiological examination.

Keywords: Jaw Cysts, Turkish Sample Patients, demographic data

CEMENTOBLASTOMA OR OSTEO SARCOMA? A CASE REPORT Ali Fuat Çiçek1, Özlem Özer Yícil2, Ümit Aydıñ3, Omer Karakoç1, Ömer Günhan1, 1Department of Pathology, Gülhane Military Medical Academy, Ankara, Turkey; 2Department of Oral Pathology, Gazi University, Faculty of Dentistry, Ankara, Turkey; 3Department of Otolaryngology, Gülhane Military Medical Academy, Ankara, Turkey

Cemento blastoma, also known as true cementoma is a relatively rare benign neoplasm which is derived from odontogenic ectomesenchyma. It is usually recognised easily thanks to its characteristic radiologic (a well-circumscribed radiopaque mass with a radiolucent rim and relationship with tooth root) and histopathologic (sheets of cement-like eosinophilic material with basophilic reversal lines) appearance. But sometimes, as in our case, the lesion doesn’t exhibit characteristic radiologic features and it may be confused with malignancy. Furthermore, we can see cementoblasts with atipical appearance at the periphery of the lesions as if they belong to an osteosarcoma. We present a cementoblastoma in the mandible of a 21-year-old male patient exhibiting unusual histopathological features including large cementoblasts with hyperchromatic nuclei at the periphery of the lesion.
Keywords: Cementoblastoma, osteosarcoma

ORAL PRECURSOR LESIONS (AWARENESS OF DIFFERENTIATED TYPE DYSPLASIA) Ali Fıat Çiçek, Ibrahim Yavan, Yıldırım Karslıoğlu, Ayhan Özcan, Ömer Günhan, Department of Pathology, Gülhane Military Medical Academy, Ankara, Turkey

Squamous cell carcinomas of the oral cavity usually arise from an oral precursor lesion. These lesions are graded into different categories according to their malignant transformation risk. Cytological criteria are more discernible and objective than the architectural ones, because most of general surgical pathologists who don’t have sufficient daily practice on this subject may easily misinterpret the architectural criteria and underdiagnose OED as “hyperplastic epithelium, extensive keratosis, keratosis without dysplasia, verrucous hyperplasia, verrucous keratosisis or pseudoepitheliomatous hyperplasia”. In the present study we aimed to clarify these architectural atypia criteria and emphasize the importance of recognizing them. For this purpose; we present eight intraoral SCC cases which had previously diagnosed as OED or other than this. The previous biopsy slides were reassessed by different pathologists. It is concluded that the diagnosis of oral precursor lesions with predominantly architectural dysplasia is difficult.

Keywords: oral precursor lesions, dysplasia, oral squamous cell carcinomas

BENIGN LYMPHOEPITHELIAL CYST OF PAROTID GLAND WITH LYMPHOEPITHELIAL LESION IN A HIV SERONEGATIVE PATIENT Serkan Aksoy, Ömer Günhan, Department of Pathology, Gülhane Military Medical Academy, Ankara, Turkey

Benign lymphoepithelial cyst of salivary gland is a rare lesion characterised by multicellular cysts. Cysts are lined by squamous or glandular epithelium with epimyoepithelial islands containing lymphoid hyperplasia. It is commonly associated with human immunodeficiency virus type-1 (HIV) infections. This report describes histopathological findings of a benign lymphoepithelial cyst of parotid gland containing lymphoepithelial lesion in a 45 year old HIV negative male patient.

Keywords: Benign lymphoepithelial cyst, parotid gland, HIV

ROD-LIKE CALCIFICATIONS IN ORAL TISSUES: A CLUE FOR DIAGNOSIS OF SPECIFIC ENTITIES? Özlem Özer Yücel1, Omer Günhan2, 1Department of Oral Pathology, Gazi University, Ankara, Turkey; 2Department of Pathology, Gülhane Military Medical School, Ankara, Turkey

The presence of rod-like calcifications is a common histopathological feature in specific lesions like gingival fibromatosis, regional odontodysplasia, and hyperplastic dental follicles. Histopathologically, these type of calcifications in the stroma show close proximity to odontogenic epithelial remnants. The micro-environmental mesenchymal stroma is among the most abundant factors determining cell behavior at different levels including differentiation and gene expression. The interaction of stromal cells and odontogenic epithelial cells in such lesions, appears to stimulate the process of mineralization. These specific type of calcifications associated with odontogenic epithelial remnants can be considered as valuable diagnostic tools in the mentioned lesions.

Keywords: Rod-like calcifications, gingival fibromatosis, regional odontodysplasia, hyperplastic dental follicles

EXPRESSIONS OF SURVIVIN, E-CADHERIN, CD138, AND CD38 IN CYSTIC ODONTOGENIC LESIONS: A COMPARATIVE STUDY Ayhan Özcan, Ibrahim Yavan, Ömer Günhan, Department of Pathology, Gülhane Military Medical Academy, School of Medicine, Ankara, Turkey

Objective: Cystic ameloblastoma (CA), keratocystic odontogenic tumor (KCOT), dentigerous cyst (DC), and radicular cyst (RC) are cystic odontogenic lesions. CA and KCOT are known as locally aggressive neoplasms. The aim of this study is assessing the expressions of survivin, E-cadherin, CD138 (syndecan-1), and CD38 in these lesions.

Study Design: A total of 20 cases consisting 5 RCs, 5 DCs, 5 KCOTs and 5 CAs were included in our series.

Results: All CAs and KCOTs showed diffuse and strong nuclear survivin expression in all epithelial and stromal cells with some weak cytoplasmic staining, as well. No specific immunoreactivity was observed in DCs and RCs. E-cadherin expression was stronger in all DCs and RCs when compared to CAs and KCOTs. Cystoplasmic CD138 expression in stromal cells was prominent in CAs, but gradually decreases in DCs, KCOTs and RCs, respectively. Membranous CD138 expression was seen in all epithelial layers of CAs, DCs and RCs, whereas it was only detected in basal and suprabasal cells of KCOTs. All cases were negative for CD 38.

Conclusions: Our results revealed that there is a loss of E-cadherin and strong nuclear survivin expressions both in epithelial and stromal cells in CAs and KCOTs. This finding reinforces the similar studies suggesting their role in the aggressiveness of these tumors.

Keywords: E-cadherin, cystic odontogenic lesions, CD138, CD38

A DIFFUSE LEUKOPLASIA COMBINED WITH ORAL LICHER PLANUS: A CASE REPORT Tuncer Özlen1, Mehmet Hakan Kurt1, Hilal Peker Öztürk1, Seda Özgedik1, Buğra Şenel1, Ömer Günhan2, 1Department of Dentomaxillofacial Radiology, Gülhane Military Medical Academy, Ankara, Turkey; 2Department of Pathology, Gülhane Military Medical Academy, Ankara, Turkey

Introduction: White lesions of oral mucosa can not be characterised as any other definable lesion. Most of these lesions are benign but some lesions may indicate malign transformation. When the clinical diagnosis is not clear, histopathological examination must be carried out. Though white lesions of the oral mucosa are common, there is no any case such a this lesion “leukoplakia combined with lichen planus” in the literature.

Case Report: A 45 years old female patient referred to our clinic for the lesions of oral mucosa. In the clinical examination variety white lesions were recognized in her mouth. Hyperkeratotic areas on different localization on mucosa were seen. There were also Wickham Lines on right buccal mucosa. The incisional biopsies were made from different areas of the oral mucosa. The diagnosis were lichen planus and leukoplakia.

Conclusion: Dentists must be aware of the lesions and multiple biopsies should be made for exploring any displastic transformation.

Keywords: diffuse leukoplakia, lichen planus, white lesions

OCCURRENCE OF THE RETROMOMULAR FORAMEN IN EGYPTIAN DRY MANDIBLES: A PRELIMINARY MORPHOLOGICAL STUDY Bhagath Kumar Potu1, Abdel Halim Salem2, Hoda Abdel Raouf2, Ghada Abdel Kader2

Keywords:
FEATURES AND MANAGEMENT OF FIVE CASES

Marwan Abu Hijleh1, 1Department of Anatomy, College of Medicine and Medical Sciences, Arabian Gulf University, Kingdom of Bahrain; 2Department of Anatomy, Faculty of Medicine, Suez Canal University, Ismailia, Egypt

Objective: The retromolar foramen (RMF) is a variant in the retromolar fossa behind 3rd molar tooth. The literature shows that the presence of RMF has been an obstacle in blockage of the inferior alveolar nerve. In this study, we report the incidence of RMF from Egyptian population.

Study Design: In this study, 11 dry mandibles were seen for RMF and borders of the retromolar trigone were carefully studied. Wherever foramina were noticed, their location and the distance of the RMF from the posterior border of socket for 3rd molar, anterior border of the ramus and lingula were measured with a digital vernier caliper.

Results: The foramen was observed in 3 mandibles out of 11 included in the study (23%). It was seen that the distance of RMF from third molar socket, from the anterior border of ramus and also from the lingula varies between 3-15mm, 5-12 mm and 6-22mm respectively.

Conclusions: Keeping our measurements, one should look for RMF while performing 3rd molar extraction, diuresis procedures, flap lifting, during sagittal split osteotomy surgeries.

Keywords: retromolar area, retromolar foramen, incidence, ethnic variation, Egyptian population

MYOFIBROMA IN PALATE: CASE REPORT Seçil Çabak1, Eda Yılmaz Akçay2, Esra Beyler3, Burak Bayram1, 1Baskent University, Department of Oral and Maxillofacial Surgery; 2Baskent University, Department of Pathology, Ankara, Turkey

Myofibroma is a rare benign neoplasm characterized by the proliferation of fusiform cells originating from myofibroblasts. A ten year old child was referred to our clinic with complaint of rapid growing mass in her right palate. On clinical examination painless, elastic hardness mass covering with normal mucous membrane was seen in right hard palate. On CT examination the mass was growing through maxillary sinus. On inscional biopsy diagnosis of lichen planus and pemphigoid, and were presented desquamative gingivitis that were associated with signs of abnormalities in other mucous membranes or skin.

Objective: To describe five cases of patients who presented desquamative gingivitis that were associated with histological diagnosis of lichen planus and pemphigoid, and were treated with corticoid topical. All of cases described weren’t associated with signs of abnormalities in other mucous membranes or skin.

Keywords: Desquamative gingivitis, treatment, histological features

EXPRESSION OF CYCLIN D1 AND ITS CORRELATION WITH p27KIP1 IN NORMAL ORAL MUCOSA, ORAL DYSPLASIA AND ORAL SQUAMOUS CELL CARCINOMA Simon Guan1, Norman Firth1, Robert Love2, 1The Department of Oral Diagnostic and Surgical Sciences, University of Otago, Dunedin, New Zealand; 2The Department of Oral Rehabilitation, University of Otago, Dunedin, New Zealand

Objective: The purpose of this study was to investigate the expression of cell-cycle regulatory proteins cyclin D1 and p27KIP1 in normal oral mucosa, oral epithelial dysplasia and oral squamous cell carcinoma. The correlation between cyclin D1 and p27KIP1 expression, and the grade of dysplasia or differentiation of oral squamous cell carcinoma was examined.

Study Design: Specimens consisting of normal oral mucosa (n=10), oral epithelial dysplasia (n=10) and oral SCC (n=12) were prepared and stained using immunohistochemistry methods. Scanning software was used to determine cyclin D1 and p27KIP1 intensity of expression, location and pattern.

Results: A significant increase in expression of cyclin D1 and a decrease in expression of p27KIP1 was observed with the severity of oral epithelial dysplasia and in less well differentiated SCC.

Conclusions: These results suggest that the characteristic expression of both cyclin D1 and p27KIP1 correlate with the grade of oral epithelial dysplasia and degree of oral squamous cell carcinoma differentiation.

Keywords: Cyclin D1, P27KIP1, Oral epithelial dysplasia, Oral squamous cell carcinoma

HYPERPLASTIC EPITHELIUM OF EPU LIS ASSOCIATED WITH DENTURE WEARING AS A POTENTIAL RESERVOIR OF THE HUMAN PAPILLOMAVIRUS Anuudari Erkhembaatar1, Ryoko Kawar1, Seeta Kato2, Ryota Torii1, Waka Yoshida2, Yoshitaka Sugita1, Emiko Sato1, Katsutoshi Kubo1, Hatsuhiko Maeda1, 1Department of Oral Hygiene, School of Dentistry, Health Science University of Medicine; 2Department of Oral Pathology, School of Dentistry, Aichi Gakuen University, Japan

Objective: In recent meta-analysis, HPV was indeed confirmed as independent risk factor for oral carcinoma. Recently, HPV infection was detected in the hyperplastic epithelium. The objectives of the present investigation were to clarify the relationship between the hyperplastic epithelium of epulis and HPV.

Study Design: 118 formalin-fixed, paraffin-embedded hyperplastic epithelium biopsies of epulis specimens used for DNA extraction. HPV infection was detected by PCR using consensus primers, in situ hybridization and immunohistochemical
techniques. PCR using HPV type-specific primers was done in HPV positive samples.

Results: Twenty of the samples (16.9%) were positive in HPV consensus primer detection. Eighteen (23.1%) of the 78 denture wearing patients were positive and two (5.0%) of the 40 non-denture wearing patients were positive. The difference was statistically significant (p=0.01) by fisher test. The most frequent type of HPV of the 14 positive samples was HPV-16.

Conclusions: The results suggest that the hyperplastic epithelium of denture epulis may be a reservoir for HPV infection.

Keywords: HPV, Denture, Epulis

SURGICAL AND INTRALESIONAL CORTICOSTEROID TREATMENT OF DIFFERENT TYPES OF GIANT CELL REPERATIF GRANULOMAS: 5 CASES Özlem Filiz Bayar, Mustafa Mert Açıklık, Gamze Şenol Güven, Gülşüm Ak, Departmenten of Oral and Maxillofacial Surgery, Istanbul University Faculty of Dentistry, Istanbul, Turkey

Background: Giant cell reparative granuloma is an uncommon benign lesion that accounts for 1%-7% of all benign lesions of the jaw. Giant cell reparative granuloma often arises in the mandible and in the maxilla and affects children and young adults predominantly females. It is usually a slow-growing, fast-growing lesions having rarely been reported. Its etiology is unknown and its biological behavior is poorly understood. Giant cell reparative granulomas are classified, according to location, as central or peripheral, occurring, respectively, in bone or gingival soft tissues.

Methods: Surgery is the main treatment approach. Pharmacological treatment options include calcitonin therapy, intralesional corticosteroid injection and interferon alpha therapy. We present 5 patient with giant cell reparative granuloma. 4 of them are treated with surgery, 1 patient treated with intralesional corticosteroid injection.

Results: During the follow-up periods, there were no recurrence.

Keywords: Giant Cell Granuloma, Intralesional Kortikosteroid Treatment, Surgical Treatment

APPLICATION OF LIQUID-BASED TRANS-EPITHELIAL FLEXIBLE BRUSH CYTOLGY IN DETECTION OF HIGH-GRADY LARYNGEAL MUCOSAL LESIONS Amir Afrozeh1, Andrew Pelser2, Rory Attwood2, Pawel Schubert2, Jos Hille3, 1Department of Oral and Maxillofacial Pathology, University of the Western Cape and National Health Laboratory Service, Tygerberg, Cape Town, South Africa; 2Department of Otolaryngology, University of Stellenbosch, Tygerberg Hospital, Cape Town, South Africa; 3Division of Anatomical Pathology, University of Stellenbosch and National Health Laboratory Service, Tygerberg Hospital, Cape Town, South Africa

Objective: To evaluate the effectiveness of Liquid-Based Trans-Epithelial Flexible Brush Cytology (LBTEFBC) in detection of high-grade laryngeal lesions.

Study Design: Diagnostic accuracies of LBTEFBC and Flexible Biopsy (FB) were compared with that of Biopsy Under general Anaesthesia (BUA) in 49 and 46 patients respectively. Cytology and biopsy specimens were obtained with the aid of flexible brushes and biopsy forceps. Cytology specimens were graded and scored using a recently proposed oral cytologic grading and scoring system.

Results: Cytology showed 97, 29% sensitivity, 100% specificity and FB 77.1% sensitivity, 100% specificity when compared with BUA. The best cut-off value for discriminating reactive/mildly dysplastic lesions from high-grade dysplasias/invasive squamous cell carcinomas was determined as cytologic score of 3, with sensitivity and specificity of 100%.

Conclusions: LBTEFBC is a simple, cost-effective, relativelyatraumatic office-based procedure which, with the recently proposed classification, appears to be an accurate technique for detection of high-grade laryngeal lesions.

Keywords: larynx cytology, flexible brush cytology, liquid-based cytology, high grade lesions, trans-epithelial flexible brush biopsy

21ST CENTURY ORAL HAIRY LEUKOPLAKIA Anne Elizabeth Chambers1, Brendan Conn1, Michael Pemberton1, Philip Sloan1, Max Robinson2, 1Department of Cellular Pathology, Newcastle upon Tyne NHS Foundation Trust, Newcaslte upon Tyne, UK; 2School of Dental Sciences, Newcastle University, Newcastle upon Tyne, UK; 3Department of Pathology, Royal Infirmary of Edinburgh, Edinburgh, UK; 4University Dental Hospital of Manchester, Central Manchester University Hospitals NHS Foundation Trust, Manchester, UK

Objective: This study investigated the clinicopathological features of a series of patients with non HIV-associated oral hairy leukoplakia (OHL).

Study Design: Patients with non HIV-associated OHL were identified from three centres. EBER in-situ hybridisation. Diastase Periodic Acid Schiff (DPAS) was used to demonstrate fungal pseudo hyphae. The clinical features were extracted from the medical records.

Results: Thirty-five patients were identified (25 males, 10 females). Twenty-seven patients had coexistent respiratory disease managed with inhaled corticosteroids, four patients were diabetic and four had autoimmune conditions requiring systemic steroids or other immunosuppressants. The majority of lesions (n=34) were located on the tongue. There was one lesion on the floor of mouth. Twenty-four of the lesions showed evidence of candidal infection.

Conclusions: Non HIV-associated OHL is most commonly associated with inhaled corticosteroid use in otherwise immunocompetent individuals. The presence of OHL should not be regarded as pathognomic of HIV infection.

Keywords: EBV infection, Tongue, Leukoplakia

PRELIMINARY PHENOTYPIC AND GENETIC CHARACTERIZATION OF 18 CHILEAN FAMILIES AFFECTED BY AMELOGENESIS IMPERFECTA Blanca Urzúa Orellana1, Irene Morales Bozo1, Ana Ortega Pinto2, Daniela Adorno Farias2, Lilian Jara Sosa3, Sandra Gutiérrez Prieto4, Ana Salazar Roa4, Daniela Mansilla Durán5, Manuel Morales Gómez1, Sebastián Barros Pomaar4, 1Faculty of Dentistry, Institute for Research in Dental Sciences, University of Chile, Metropolitan Region, Santiago de Chile; 2Faculty of Dentistry, Department of Pathology and Oral Medicine, University of Chile, Metropolitan Region, Santiago de Chile; 3Faculty of Medicine, Institute of Biomedical Sciences, University of Chile, Metropolitan Region, Santiago de Chile; 4Faculty of Medicine, Institute of Biomedical Sciences, University of Chile, Metropolitan Region, Santiago de Chile; 5Faculty of Dentistry, Dental Research Center, Javeriana University, Bogotá, Colombia
**Objective:** To analyze clinically, radiographically and genetically Chilean families affected by amelogenesis imperfecta (AI).

**Study Design:** We recruited 18 Chilean families, which were examined intra and extra orally. Clinical photographs and dental radiographies were obtained. Through PCR and direct sequencing we analyzed coding regions and nearby intron sequences of causal genes of AI.

**Results:** Seven families had hypoplastic AI, seven showed hypomature AI and four presented hipocalcified AI. Four probands with hypoplastic AI did not show the mutations described in the ENAM gene. Two probands with hypocalcified and two with hypomature AI showed no reported mutations in MMP-20 and FAM83H, respectively, but the proband of one family had a new mutation in FAM83H gene.

**Conclusions:** For the genes ENAM, MMP-20 and FAM83H, we have not identified previously reported mutations yet. A proband with hypocalcified AI presented a mutation in the FAM83H gene not described before.

**Grant:** FONDECYT No 1140905.

**Keywords:** Enamel, Chilean families, Amelogenesis Imperfecta

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**HISTOLOGIC FEATURES OF TEMPOROMANDIBULAR ANKYLOSIS, REVIEW OF THE LITERATURE APROPOS OF CLINICAL FINDINGS**

**Authors:** Carolina Collao González1, Montserrat Reyes Rojas2, Luis Córdova Jara3, Marcela Hernández R2, Juan Cortés Araya3, 1School of Medicine, Pontifical Catholic University of Chile, Santiago, Chile; 2Department of Pathology and Oral Medicine, University of Chile, Santiago, Chile; 3Department of Oral and Maxillofacial Surgery, University of Chile, Santiago, Chile

**Objective:** Ankylosis of the temporomandibular joint is an intracapsular union of the disc-codyle complex to the temporal articular surface, which results in the restriction of mandibular movements. It interferes with mastication and speech function, and cause facial asymmetry and retrognathism, reducing the upper airway space thus altering ventilatory function. Numerous descriptions on clinical features and surgical treatment have been published, but histopathological features of ankylosis are frequently overlooked.

**Aim:** To review the published literature on temporomandibular joint ankylosis with focus on the histologic findings and contrast the results with preliminary findings of current research on the histopathological features of temporomandibular joint ankylosis in humans.

**Study Design:** Review of published papers on the study subject, with focus on histopathological findings.

**Results:** A review of the scientific papers published in the last 10 years was made.

**Conclusions:** A minority of the articles published in the subject focus on the histological features of the temporomandibular joint ankylosis.

**Keywords:** ankylosis, bone pathology, review

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**p16 IMMUNOHISTOCHEMISTRY RESULTS OF BENIGN AND DYSPLASTIC LESIONS OF HEAD AND NECK: 44 CASES**

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**Objective:** p16 is a tumor suppressor gene encoded by CDKN2A located on chromosome 9 (9p21.3). Silencing of tumor suppressor genes plays a vital role in head and neck carcinoma. In studies human papillomavirus status has been ascertained to correlate with p16 expression. Our aim was to determine intraepithelial height of immunohistochemical staining for p16, in upper aerodigestive tract lesions with reference to degree of dysplasia and epithelial staining in benign squamous lesions such as squamous papilloma.

**Study Design:** Biopsy specimens of 11 squamous dysplastic and 33 benign lesions were immunohistochemically stained for p16. Positive staining were quantified and compared for benign lesions and dysplasia.

**Results:** There were 29 male and 15 female patients with a mean age 51.35 (79%) cases showed positive staining with P16.

**Conclusions:** P16 immunohistochemical staining may be useful in squamous dysplasia and benign lesions in head and neck for prediction HPV status which can play a role in carcinogenesis.

**Keywords:** p16, results, benign lesions

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**IMMUNOHISTOCHEMICAL p16 EXPRESSION AND ITS ASSOCIATION WITH HPV DNA POSITIVITY IN BENIGN AND MALIGNANT ORAL LESIONS**

**Authors:** Havva Serap Toro1, Irem Hicran Ozbudak1, Mualla Ozcan1, Neslihan Yapra2, Gülay Ozbilim1, 1Department of Pathology, School of Medicine, Akdeniz University, Antalya, Turkey; 2Department of Ear Nose Throat Head and Neck Surgery, School of Medicine, Akdeniz University, Antalya, Turkey

**Objective:** Oral precursor lesions, clinically usually defined as leukoplakia, represent areas of altered epithelium with an increased likelihood for progression to the squamous cell carcinoma (SCC). These lesions are etiologically connected with smoking, alcohol and Human Papilloma Virus (HPV) infection.

**Study Design:** The aim of this study was to assess the p16 expression and its correlation with HPV-DNA analysis. Prospectively, 29 patients were evaluated.

**Results:** Fifteen cases were diagnosed as SCC, 14 cases were diagnosed as benign including 5 mild dysplasia, 2 moderate dysplasia and 2 squamous papillomas. Immunohistochemically, p16 is performed on 27 patients. P16 expression was detected in 21 patients. HPV-DNA analysis was performed in 12 patients and positive result was detected in 1 SCC, 2 dysplasia and 3 squamous papillomas which had nuclear p16 staining.

**Conclusions:** In this study, HPV and p16 positivity was shown in oral precursor lesions. However, further studies are needed in larger series to conclude the precise association.

**Keywords:** oral precursor lesions, squamous papilloma, squamous cell carcinoma

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**MAXILLARY BENIGN FIBRO-Osseous LESIONS. A CLINICO-PATHOLOGICAL STUDY**

**Authors:** Helen Rivera1, Maria Carolina Sánchez2, Sonia Dickson1, Jose David Mota2, Omar Pinto1, 1Oral Pathology Laboratory, School of Dentistry, Central University Of Venezuela, Caracas, Venezuela; 2Anatomopathological Institute “José A. ÓDaly”. School of Medicine. Central University of Venezuela, Caracas, Venezuela

**Objective:** The aim of the present study was to analyze BFOL of maxillary bones and to correlate with clinico-pathological parameters.

**Study Design:** 17.800 oral and maxillofacial biopsies diagnosed at the Oral Pathology Laboratory during 2008-2013
were retrieved. 24 BFOL cases were analyzed according to gender, age-group, location, histopathologic and radiologic data from clinical charts, 3 sections from paraffin blocks were performed to reclasify.

**Results:** Female/Male ratio was 5:1. Age range was 41 to 60 and the average age 39 years (SD=18). The commonest site was left mandible 18/24 (p<0.05). 71% represented radiopaque lesions (p<0.05). According to histopathology, 42% were diagnosed as Osseous Dysplasia (OD), 20% monostotic FD, 13% JOF (2 trabecular and a psammomatomoid variant). Craniofacial Fibrous Dysplasia represented 9% and OD 4%. The mineralized tissue frequently observed was trabecular bone (79%).

**Conclusions:** In this study the diagnosis of OD was the most common and mandibular left side and females were commonly affected.

**Keywords:** Benign Fibro-osseous lesions, histopathologic, BFOL, Maxillary, clinico-pathological study.

**THE DEMOGRAPHICS AND HISTOPATHOLOGICAL FEATURES OF ORAL CAVITY MALIGNANCIES MANAGED IN OUR CLINIC Mehmet Dücili1, Recep Karamer1, Faruk Kadri Bukal1, Raşit Cevizci1, Hakan Tutar1, Mehmet Ekrem Zorlu1, Alper Dilci1, 1Department of Otorhinolaryngology, Gazi University, Ankara, Turkey; 2Department of Otorhinolaryngology, Medipol University, Istanbul, Turkey

**Objective:** To examine the demographics and histopathological features of the patients who undergone surgery due to oral cavity malignancies.

**Study Design:** The surgical archive charts of the patients in Gazi University Otorhinolaryngology Department between the years 1993-2013 were reviewed retrospectively and 229 patients who undergone surgery due to oral cavity malignancies were enrolled in the study.

**Results:** Oral tongue tumors were the most common oral cavity malignancies and diagnosed in 95 of the patients (41.4%). A marked dominance of squamous cell carcinoma (SCC) in histopathologic evaluation was observed in all sub-sites except the hard palate. Most of the patients were in the fifth and sixth decades and a male to female dominance was present in all sub-sites except the retromolar trigon tumors.

**Conclusions:** Oral cavity malignancies are particularly concerning elderly population with a male to female dominance and the most common histopathological type is SCC.

**Keywords:** oral cavity malignancy, squamous cell carcinoma, oral tongue.

**PRIMARY INTRAOSSEOUS ADENOID CYSTIC CARCINOMA IN MANDIBLE: CASE REPORT Secil Cubuk1, Cagri Ahmet Uysal2, Eda Yilmaz; AcKay1, Burak Bayram1, 1Department of Oral and Maxillofacial Surgery, Baskent University, Ankara, Turkey; 2Department of Plastic and Reconstructive Surgery, Baskent University, Ankara, Turkey; 3Department of Pathology, Baskent University, Ankara, Turkey

We report an unusual primary intraosseous adenoid cystic carcinoma (ACC) in mandible. 64 year old female referred to our clinic with the complaint of swelling in left lower jaw for three months. Her medical history revealed that the patient had facial paralysis for three years following to pontocerebellar angle tumor resection. CT imaging showed that the tumor was located in mandibular body and ramus and also destructed cortex of mandible at medial ramus. Specimen that was derived with inscional biopsy was positive at PAS, S100, vimentin, SMA and EMA. Ki-67 proliferation index was over %20. Based on the overall histologic, clinical and radiographic findings, diagnosis was made as ACC Hemimandibullectomy and reconstruction with free fibula osteocutaneous flap was performed simultaneously. Upon histologic and macroscopic evaluation resected tumor was staged as grade III. Major and minor salivary glands have not any primary tumor. Primary intraosseous ACC in mandible is a rare tumor. Resection with wide margin should be performed in surgical treatment.

**Keywords:** Adenoid cystic carcinoma, mandible, free fibula flap.

**CLONAL ANALYSIS OF KERATOCYSTIC ODONTOGENIC TUMOR Yasuyuki Shimada1, Kei Sakamoto2, Kou Kayamori2, Akira Yamaguchi3, 1Section of Oral and Maxillofacial Surgery, Department of Oral Restitition, Division of Oral Health Sciences, Graduate School of Medical and Dental Sciences, Tokyo Medical and Dental University, Tokyo, Japan; 2Section of Oral Pathology, Department of Oral Restitution, Division of Oral Health Sciences, Graduate School of Medical and Dental Sciences, Tokyo Medical and Dental University, Tokyo, Japan

**Objective:** We have previously demonstrated that keratocystic odontogenic tumor (KCOT) can be divided into 3 subgroups; Type 1-3, based on the germline gene mutation and loss of heterozygosity (LOH) of PTC1, PTC2 and SUFU, and these genotype-oriented subgroups were linked to different potential aggressiveness. This study aimed to further explore the pathogenesis of KCOT.

**Study Design:** KCOT and surrounding normal tissue were microdissected from formalin-fixed paraffin-embedded specimens of 15 female patients, and the human androgen receptor assay was performed.

**Results:** In Type 1 KCOT (mutation+), 3 cases showed monoclonality, 2 cases showed heterogeneity and 3 cases were non-informative. In Type 2 (mutation-/LOH+), 2 were monoclonal and 1 was heterogeneous. In Type 3 (mutation-/LOH-), 1 was monoclonal, 2 were heterogeneous and 1 was non-informative. No clinicopathological difference was found between the clonal and the heterogeneous KCOTs.

**Conclusions:** KCOT arises from a clonal or heterogeneous origins, irrespective of the genotypes and phenotypes.

**Keywords:** keratocystic odontogenic tumor, gorlin syndrome, human androgen receptor assay.

**SENIOR CANCER ASSOCIATED FIBROBLASTS REGULATES ORAL TUMOUR CELL ADHESION AND INVASION VIA TGF-B DEPENDENT PATHWAYS Yazar Hassan2, Nicola Cirillo2, Ken Parkinson3, Stephen Prime4, 1Faculty of Dentistry, University of Jordan, Amman, Jordan; 1University of Melbourne, School of Dentistry, Melbourne, Australia; 2Institute of Dentistry, Barts and The London School of Medicine and Dentistry, London, UK; 3Department of Oral and Dental Sciences, University of Bristol, Bristol, UK

**Objective:** To examine the mechanism by which CAFs induce EMT and regulate OSCC keratinocyte cell adhesion.

**Study Design:** An in vitro functional invasion and dissociation assays were used to study the proinvasive effect of CAFs.

**Results:** Conditioned media (CM) from senescent CAFs induced EMT in OSCC keratinocyte cell lines. We make the
nave observation that CM from senescent CAFs caused the down regulation of a broad spectrum of cell-cell adhesion molecules including Desmoglein 1 and 3, Desmoplakin, β-catenin, Plakophilin and Desmocollin. The induction of EMT and down-regulation of adhesion molecules was associated with a less cohesive and more invasive epithelial phenotype. Inhibition of CAF-derived TGF-β reduced the ability of senescent fibroblasts to promote keratinocyte tumour cell dissociation and invasion in vitro.

Conclusions: Senescent stromal fibroblasts promote tumour cell invasion by the downregulation of cell-cell adhesion molecules and the induction of keratinocyte discohesion, a heterotypic cell interaction that occurs in a TGF-β dependent manner.

Keywords: Oral, Cancer associated fibroblasts, Cancer, Tumor microenvironment

SENESCENT STROMAL FIBROBLASTS SECRETE MMP-2 WHICH PROMOTES THE INVASION OF OSCC KERATINOCTYE CELLS Yazan Hassona1, Nicola Cirillo2, Kate Hessom1, Ken Parkinson1, Stephen Prime1, 1Faculty of Dentistry, University of Jordan, Amman, Jordan; 2University of Melbourne, School of Dentistry, Melbourne, Australia; 3School of Medicine, University of Bristol, Bristol, UK; 4Institute of Dentistry, Barts and The London School of Medicine and Dentistry, London, UK; 5Department of Oral and Dental Sciences, University of Bristol, Bristol, UK

Objective: Previous studies have shown that senescent fibroblasts can enhance the development and spread of epithelial tumours through secreted factors. In the present study, we adopted a novel approach to study the secretory phenotype of senescent stromal fibroblasts

Study Design: 2D-gel electrophoresis, mass spectrometry and gelatin zymography were used to study the secretory phenotype of CAFs. In vitro invasion and adhesion assays were used to study the proinvasive effect of CAFs.

Results: MMP-2, MMP-1, TIMP-2, collagenase, osteoclast, GRP78 and ACTB protein (β-actin) were identified in CM from senescent fibroblasts. Active MMP-2 in CM from senescent fibroblasts mediated the pro-dissociative and pro-invasive effect of senescent fibroblasts, possibly by cleavage of the epithelial adhesion molecule DSG-3. Attenuation of MMP-2, using a monoclonal antibody, reduced the pro-invasive and pro-dissociative effect of senescent fibroblasts.

Conclusions: MMP-2 acted in conjunction with TGF-β to mediate the pro-invasive and pro-dissociative effect of senescent fibroblasts on OSCC keratinocyte cell lines.

Keywords: Oral, Cancer, Microenvironment, Tumor biology

A RAPIDLY FATAL ULCER IN AN IMMUNOCOMPROMISED PATIENT Yazan Hassona, Zaid Baqain, Ahmed Habahbeh, Faleh Sawair, Faculty of Dentistry, University of Jordan, Amman, Jordan

A 77-year-old man recently diagnosed with acute myelogenous leukaemia presented with a three-day history of right side facial pain, periorbital swelling, and nasal discharge. Upon examination, the right cheek was swollen and tender, and the right nostril was obliterated by black eschar. The right eye was proptotic with limitation of movement and decreased visual acuity. Introral examination revealed a 3 cm ulcer with a necrotic base and undermined edges in the upper labial vestibule. CT scan showed marked opacification of all paranasal sinuses, and histological examination demonstrated the presence of necrosis and fungal hyphae; suggesting the diagnosis of mucormycosis. Sadly, the patient died few days later. Rhinomaxillary mucormycosis is a rare but potentially fatal infection caused by fungus belonging to the order Mucorales. It mainly affects immunocompromised patients. Early diagnosis combined with medical and surgical therapy is essential to reduce morbidity and mortality of this rare infection.

Keywords: Mucormycosis, oral, ulcer

CHARACTERISTICS OF PATIENTS WITH BISPHOSPHONATE-RELATED OSTEONECROSIS OF THE JAWS Nur Haciosmanoğlu1, Zeynep Fatma Zor2, Ilkay Peker2, Sedat Çetiner2, Zühtü Akarslan3, Yeliz Kılınç2, 1Department of Dentomaxillofacial Radiology, Gazi University Faculty of Dentistry, Ankara, Turkey; 2Department of Oral and Maxillofacial Surgery, Gazi University Faculty of Dentistry, Ankara, Turkey

Objective: Bisphosphonate-related osteonecrosis of the jaws (BRONJ) is a serious side effect of the therapy with bisphosphonates (BPs). The aim of this study was to assess the characteristics of patients with BRONJ.

Study Design: This study included 15 patients aged between 56-81 years with BRONJ. Age, gender, systemic disease, type and usage period of BPs and localization of necrosis were recorded.

Results: 7 patients (46.6 %) used the drug for the treatment of multiple myeloma, 6 patients (40.0 %) for prostate cancer and 2 patients (13.3 %) for osteoporosis. 13 patients (86.6 %) used Zoledronic acid (mean: 40 months), 2 patients (13.3 %) used Alendronate (mean: 9 years). The majority of the lesions were located in the mandible (n: 14, 93.3 %).

Conclusions: Due to the increasing usage of BPs, dentists should be aware of the side effects of these drugs to the jaws.

Keywords: Squamous cell carcinoma, maxilla, resection, neck dissection, parotid gland, malignancy

NON-HODGKIN’S LYMPHOMAS OF THE TONSIL: A RETROSPECTIVE ANALYSIS Ayse Çağlar1, Tuğçe Şentürk2, Sever Çağlar1, 1Bagcilar Education and Research Hospital, Department of Pathology, Istanbul, Turkey; 2Bagcilar Education and Research Hospital, Department of Head and Neck Surgery, Istanbul, Turkey

Objective: Primary tonsillar lymphoma accounts for less than 1% of head and neck malignancies, although the tonsil is the most common primary extranodal site of head and neck non-Hodgkin’s lymphomas. Tonsillectomy is one of the most commonly performed procedures of the head and neck. It is performed for a wide variety of indications in both adults and children. Analyze the frequency of nonhodgkin lymphoma for tonsillectomy materials, by age and sex.

Study Design: Retrospective study of the histopathologic result of all tonsillectomies between 2008 and 2014 in an education and research hospital and analyzed the frequency of non-hodgkin lymphoma for tonsillectomy materials, by age and sex.

Results: 1080 results of histopathologic exams were analyzed and 9 cases presented B cell non-Hodgkin lymphoma.

Conclusions: All materials tonsillectomy should be carefully evaluated by histopathological.
THE ROLE OF FNA CYTOLGY IN THE DIAGNOSIS OF HODGKIN’S DISEASE

Aysel Çağlar1, Yazgıt Köylü1, Ümit Seza Tekinkur1, Mehmet Faruk Oktar1, Sever Çağlar1, 1Bagcilar Education and Research Hospital, Department of Pathology, Istanbul, Turkey; 2Bagcilar Education and Research Hospital, Department of Head and Neck Surgery, Istanbul, Turkey; 3Bagcilar Education and Research Hospital, Department of Orthopedic Surgery, Istanbul, Turkey

Objective: FNA cytology is widely used in the diagnosis of many tumoral mass, because it is easily implemented, inexpensive and noninvasive method. A preferred method for the diagnosis of lymphadenopathy are used. In this retrospective study we questioned the role of FNA cytology in the diagnosis of Hodgkin’s disease.

Study Design: Retrospective study of the histopathologic results of all Hodgkin’s Disease between 2008 and 2014 in our institute and analyzed the results of these cases FNAC.

Results: We found 28 FNAC in our institute in years 2008 through 2014 of 44 Hodgkin’s Disease cases. On follow-up tissue biopsy, all the cytological diagnosed, cases were confirmed to be HD. 9 cases (%32) were suspicious for Hodgkin’s Disease, 3 cases (%10.7) were atypical, 11 cases (%39.3) were benign and 5 cases (%17.8) were nondiagnostic.

Conclusions: The diagnosis of Hodgkin’s disease by FNA cytology as possible, although there are many cytological diagnostic challenge.

Keywords: cytology, FNA, Hodgkin’s Disease

MELANOTIC NEOECTODERMAL TUMOR OF INFANCY: CASE REPORT

Havva Serap Torda1, Neslihan Yaprak1, Alper Tunga Derin2, Can Çevikol1, İrem Hicran Özbudak1, 1Department of Pathology, School of Medicine, Akdeniz University, Antalya, Turkey; 2Department of Ear Nose Throat Head and Neck Surgery, School of Medicine, Akdeniz University, Antalya, Turkey; 3Department of Radiology, School of Medicine, Akdeniz University, Antalya, Turkey

Melanotic neuroectodermal tumor of infancy is a very rare benign, nonulcerative, painless, rapidly progressing, locally aggressive tumor of neural crest.

Herein, we report a 6-month-old girl presented with a hard palate mass. Tumor was very extensive, locally destructive which invade the alveolar part of maxilla and extended to nasal cavity, paranasal sinuses. Total excision of the mass was performed. Histologically, tumor was consisted of two cell types; epithelioid and small round blue cells. Epithelioid cells which forming glandular-tubular structures had pale pink cytoplasm with melanin-pigment accumulation. However, small round-blue-cells arranged in nested and alveolar growth patterns. By these findings, the patient was diagnosed as ‘Melanotic neuroectodermal tumor of infancy’. Due to the variability of cell populations and melanin content, tumor has a wide range of differential diagnosis such as round-blue-cells tumors, immature teratoma and melanotic melanoma. Differential diagnosis is crucial because of the benign nature and treatment modality of melanotic neuroectodermal tumor.

Keywords: Melanotic Neuroectodermal Tumor, Child, local agressive, benign, neural crest

SYPHILIS: AN EMERGING INFECTIOUS DISEASE

Estela Kaminagakura1, Luciana Rocha Strieder1, Victor Barroso Costa1, Jorge Esquiche Léon2, 1University of São Paulo State; 2University of São Paulo, São Paulo, Brazil

Objective: The aim of this study is to report a case of secondary syphilis and emphasize the importance of identifying oral lesions for final diagnosis.

Case: A 5 year-old male patient was diagnosed with Hodgkin’s Lymphoma, who was treated by vincristine and cyclophosphamide. In the physical examination, a swelling on the right side of mandible was noticed. Radiographically, a well-defined radiolucent area with radiopaque material was observed. Microscopically, the specimen exhibited a slender epithelium with 2-3 cell layers and no inflammation in the connective tissue. The diagnosis of odontogenic cyst lesion was made. The cyst was decompressed and after three months it was removed. Analyses of surgical specimen showed cystic epithelium and mineralized tissue similar to dentin and cement. The final diagnosis was cystic odontoma.

Conclusion: In this case, the influence of chemotherapy in pathogenesis of cystic odontoma should be considered.

Keywords: Cystic lesion, odontogenic tumor, chemotherapy

POLYMORPHOUS LOW-GRADE ADENOCARCINOMA: CASE REPORT

Luisa Aguirre Bueso1, Silvia Paula De Oliveira2, Daniela Otero Da Costa3, Danielle Resende Camisasca1, Simone De Queiroz Chaves Lourenço1, Simone Sant’anna Gonçalves1, Adriana Terezinha Neves Novellino Alves1, André Bezerra De Pinho1, Almir Salgado Maurício4, 1National Cancer Institute (INCA), Rio de Janeiro, Brazil; 2Army Dental Service (OCE), Rio de Janeiro, Brazil; 3Fluminense Federal University (UFF), Rio de Janeiro, Brazil; 4Army Central Hospital (HCE), Rio de Janeiro, Brazil

Low-grade polymorphous adenocarcinoma (PLGA) is a malignant neoplasm featuring low aggressiveness and almost
could be a potential prognosticator of aggressive behavior. EMT evidences EMT even in initial stage TFSCC and this analysis high pan-cytokeratin expression was associated with low p-association with adjuvant treatment. Vimentin was cyto-keratin and vimentin expression in 101 (92.7%) cases. Vimentin was analyzed in 109 surgical specimens of TFSCC and sub-mitted. PLGA is a slow-growing, distinct, uncommon neoplasm of the Vimentin, Pan-cytokeratin EMT in tongue and/or floor of mouth squamous cell carcinoma (TFSCC) in initial clinical stage. Objective: To study EMT by immunostaining of pan-cytokeratin and vimentin proteins in TFSCC. Study Design: Pan-cytokeratin and vimentin expression were analyzed in 109 surgical specimens of TFSCC and submitted to bivariate and survival analysis. Results: Pan-cytokeratin was positive in 109 (100%) cases and vimentin expression in 101 (92.7%) cases. Vimentin was associated with adjuvant treatment (p = 0.02), poorly differentiated tumors (p = 0.006), recurrence (p = 0.02) and death (p = 0.016). Cases with high expression of vimentin showed shorter global (p = 0.01) and disease free survival (p = 0.039). High pan-cytokeratin expression was associated with low vimentin expression (p = 0.04).

Conclusions: High vimentin and low cytokeratin expression evidences EMT even in initial stage TFSCC and this analysis could be a potential prognosticator of aggressive behavior. Keywords: Malignant neoplasm; salivary gland; palate

EPITHELIAL-MESENCHYMAL TRANSITION (EMT) IN TONGUE AND/OR FLOOR OF MOUTH SQUAMOUS CELL CARCINOMA (TFSCC) IN INITIAL CLINICAL STAGE. Luisa Aguirre Buenx,1 Elisa Vieira Diblas,1 Ana Maria Rocha Dias,1 Danielle Resende Camisasca,1 Fernando Luiz Dias,1 Luis Felipe Ribeiro Pinto,1 Simone De Queiroz Chaves Lourenço,1,2 Program of Molecular Carcinogenesis, Brazilian National Cancer Institute (INCA), Rio de Janeiro, Brazil; 2Head and Neck Surgery, Brazilian National Cancer Institute (INCA), Rio de Janeiro, Brazil; 2Department of Pathology, Fluminense Federal University (UFF), Rio de Janeiro, Brazil

Objective: To study EMT by immunostaining of pan-cytokeratin and vimentin proteins in TFSCC.

Study Design: Pan-cytokeratin and vimentin expression were analyzed in 109 surgical specimens of TFSCC and submitted to bivariate and survival analysis.

Results: Pan-cytokeratin was positive in 109 (100%) cases and vimentin expression in 101 (92.7%) cases. Vimentin was associated with adjuvant treatment (p = 0.02), poorly differentiated tumors (p = 0.006), recurrence (p = 0.02) and death (p = 0.016). Cases with high expression of vimentin showed shorter global (p = 0.01) and disease free survival (p = 0.039). High pan-cytokeratin expression was associated with low vimentin expression (p = 0.04).

Conclusions: High vimentin and low cytokeratin expression evidences EMT even in initial stage TFSCC and this analysis could be a potential prognosticator of aggressive behavior.

Keywords: Malignant neoplasm; salivary gland; palate

INTRAORAL MALIGNANT MELANOMA: AN ILLUSTRATIVE REPORT OF TWO CASES. Meryem Doğan1, Betül Gündoğdu1, Havva Erdem2, Handan Bilen1, Nesrin Gürsan1, Onur Çeylan1, 1Department of Pathology, Ataturk University of Medical Faculty, Erzurum, Turkey; 2Department of Pathology, Duzce University of Medical Faculty, Duzce, Turkey; 3Department of Dermatology, Ataturk University of Medical Faculty, Erzurum, Turkey

Malignomas develop from melanocytes which are derived from the neural crest. Primary oral mucosal melanoma is rare, accounts for 0.5% of all oral cancers. Oral subtype has the worst prognosis compared to other mucosal melanoma. We report an unusual case of oral mucosal melanoma of the gingiva with the main characteristics of an in situ and invasive lesion. Case1: The 3 mm incisional gingival biopsy was taken from a 23 year-old man. A presumptive clinical diagnosis of odontogenic cyst was made. Case2: The excisional gingival biopsy was taken from a 42 year-old man. The biopsy was 2.5 × 2cm in diameter and 2 mm elevated from mucosal surface. The histological examination showed a downward streaming and pigmentation in the dermis of the tumor cells. Immunohistochemical studies showed positivity for HMB 45, Melan-A, S-100 marker.

Conclusion: Oral cavity should be examined. A detailed physical examination reveals a malignant tumor in the oral cavity.

Keywords: Mucosal melanoma, oral cavity, worst prognosis

TUMOR LYMPHANGIOGENESIS IN TONGUE/FLOOR OF MOUTH SQUAMOUS CELL CARCINOMA. Marcos Antonio Nunes Costa Silam1,2, Tiffany Tayavres1,2, Danielle Resende Camisasca,1 Luisa Aguirre Buenx,2 Paulo Antonio Silvestre De Faria1,2, Luis Felipe Ribeiro Pinto,2 Fernando Luiz Dias,1 Simone De Queiroz Chaves Lourenço1,2, Program of Molecular Carcinogenesis, Brazilian National Cancer Institute (INCA), Rio de Janeiro, Brazil; 1Fluminense Federal University (UFF), Niterói, Brazil

Objective: Evaluate/compare VEGF/C/podoplanin immunoexpression in tongue/floor of mouth squamous cell carcinoma (TFMSCC) with and without metastasis (Brazilian Cancer Institute-2001).

Study Design: Semi-seriated sections were analyzed (H&E-stained/anti-pancytokeratin) in lymph nodes without metastasis. VEGF-C immunoeexpression and intratumoral/peritumoral lymphatic vessel density (LVD) was verified in cases with (WM n=24) and without (WOM n=27) lymph node metastases. Semi-seriated sections from 29 patients (WOM) showed 5 metastasis.

Results: VEGF-C expression was associated with metastases (p=0.015), all cases WM were positive. Podoplanin analysis was performed capturing hotspots areas. Mean LVD was lower in WOM group than in WM group. Intratumoral LVD (19.98/mm²) was lower than peritumoral LVD (21.3 lymphatic vessels/mm²). WM group showed greater peritumoral LVD (p=0.05), and was associated with adjuvant radiotherapy (p=0.034) and tumor thickness (p=0.034).

Conclusions: VEGF-C and peritumoral LVD analysis in tumors of patients with cervical metastasis may be a potential prognosis biomarker to be confirmed by further investigations.

Keywords: Oral cancer, lymphangiogenesis, metastasis

ORAL ULCERS AS AN INITIAL PRESENTATION OF PEMPHIGUS. TWO CASE REPORT. Betul Gündogdu1, Meryem Doğan1, Havva Erdem2, Handan Bilen1, Nesrin Gürsan1, 1Department of Pathology, Ataturk University of Medical Faculty, Erzurum, Turkey; 2Department of Pathology, Duzce University of Medical Faculty, Duzce, Turkey; 3Department of Dermatology, Ataturk University of Medical Faculty, Duzce, Turkey

Pemphigus vulgaris (PV) is an autoimmune blistering disease of the skin and mucosa. The classic presentations of PV are flaccid vesicles or bullae over the oral mucosa, trunk, groin, and extremities. Pemphigus vulgaris affects the oral mucosa in nearly all cases. We report here two case of pemphigus vulgaris of gingiva in an adult female patient at an early stage followed by dermatologic involvement. Perilesional incision was taken and histopathological and direct immunofluorescence was done for
identification of specific antibodies. However, PV was confirmed by hematoxylin and eosin staining and immunofluorescence examination of the skin biopsy specimens.

**Keywords:** Pemphigus vulgaris, oral mucosa, direct immunofluorescence

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**APPLICATION OF PROTEOMIC TECHNOLOGIES TO DISCOVER AND IDENTIFY BIOMARKERS FOR PERIODONTAL DISEASES: PROMISING TECHNOLOGIES FOR PERIODONTAL RESEARCH**


**Objective:** Periodontal diseases are promising targets for proteomics; we have applied this technologies to the search for biomarkers of periodontal diseases and discovered biomarker candidates for periodontitis [Proteomics. 2012, 12, 2190-2202.: Proteomics. 2013, 13, 2339-2350.]

Out of these marker candidates, we focused on a disease-associated protein not well studied in periodontal disease: moesin, a member of the Ezrin–Radixin–Moesin family.

**Study Design:** Western blotting analysis revealed that moesin expression in gingival crevicular fluid was higher in patients with severe periodontal disease than in controls. We further examined moesin protein expression levels in human gingival fibroblasts (HGF) following stimulation with lipopolysaccharide (LPS) from Porphyromonas gingivalis.

**Results:** As a result, moesin expression in HGF increased by LPS treatment in a dose-dependent manner. Experiments to show how moesin is involved in periodontal pathology are under way.

**Conclusions:** These results may pave the way for future proteomic studies searching for novel biomarkers of periodontal diseases.

**Keywords:** Periodontal diseases, Proteomics, Gingival crevicular fluid (GCF)

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**EPITHELIOID ANGIOSARCOMA OF THE PAROTID GLAND**

**Sonia Lopez Letayf**, **Ana Maria Cano Valdez**, **1Facultad de Odontología, División de Estudios de Posgrado e Investigación, Universidad Nacional Autónoma de México, Mexico City, Mexico; 2Instituto Nacional de Cancerología, Facultad de Odontología, División de Estudios de Posgrado e Investigación, Universidad Nacional Autónoma de México, Mexico City, Mexico**

A 79-year-old female presented with a tumor in the right parotid region, a FNAB was performed and the diagnosis of carcinoma was given, a total parotidectomy was performed. Histopathology of the specimen revealed an epithelioid neoplasia that replaced the parotid gland with numerous vascular neo-formations, some of the cells had citoplasmatic vacuolizations containing erythrocytes. Immunohistochemistry was positive for CD34, CD31, factor VIII and vimentin, hence the diagnosis of epithelioid angiosarcoma was established. The patient’s medical history revealed a nodule in the forehead two years prior to the present lesion. The microscopic slides of that nodule were obtained and the lesion was interpreted as an angiosarcoma. The final diagnosis: metastatic angiosarcoma to the parotid gland.

**Keywords:** epithelioid angiosarcoma, parotid gland, metastasis

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**THE EFFECTS OF MYRRH ON SUTURE MATERIAL STRENGTH**

**Mohammed Alshehri**, **College of Medicine and University Hospitals, King Saud University**

**Objective:** Test durability of suture materials when exposed to various concentrations of myrrh in media simulated fluids in the oral cavity.

**Study Design:** Vicryl, MersilkTM and PTFE suture materials were immersed for five days in 4 different experimental media: artificial saliva, sterile water with 2% Commiphora myrrha, full concentration Commiphora myrrha oil, and Parodontax® mouthwash. The tensile strengths were measured at the end of each day using an Instron universal tensile testing machine. The Kruskal-Wallis was used to compare the mean retained tensile strengths of the suture materials.

**Results:** All three suture materials experienced a significant reduction in strength after three days of exposure to 100% myrrh. Of the three suture materials, PTFE showed the least disintegration from exposure to the experimental media.

**Conclusions:** MersilkTM was the weakest suture material after the myrrh exposure. There may be differences between the experimental conditions and actual clinical settings; therefore, caution should be exercised when interpreting study results.

**Keywords:** Myrrhar, Suture, Implant

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**METALLOTHIONEINE, A MARKER OF ANTI-APOTOPSIS, IS ASSOCIATED WITH CLINICAL FORMS OF ORAL LICHEN PLANUS**

**Irit Allon**, **Dror Michael Allon**, **Merav Ofir**, **Hana Vered**, **Abraham Hirshberg**, **1Department of Oral Pathology and Oral Medicine, The Maurice and Gabriela Goldschleger School of Dental Medicine, Tel Aviv University, Tel Aviv, Israel; 2Department of Oral & Maxillofacial Surgery, Rabin Medical Center, Petach Tiqva, Israel**

**Objective:** To investigate the expression of metallothionein and caspase-2 in the epithelial and inflammatory cells of OLP patients, and to investigate the association with clinical parameters.

**Study Design:** The expression of Metallothionein and Caspase-2 was immunomorphometrically analyzed in the epithelial and inflammatory cells of OLP patients, and the results were correlated with the clinical presentation.

**Results:** The epithelial and inflammatory cells expressed Metallothionein (10.2 ± 5.75 and 0.68 ± 0.86) and Caspase-2 (1.54 ± 2.6 and 0.98 ± 1.15) which show a trend towards an inverse expression. The expression of Metallothionein in the epithelium was significantly higher in patients presenting with keratotic lichen planus than in patients with the atrophic and erosive forms (p=0.0008). In the inflammatory cells the expression of Metallothionein was inversely correlated with increasing age (R=0.34, p=0.0069).

**Conclusions:** The pattern of expression of Metallothionein and Caspase-2 in OLP suggest an extensive anti-apoptotic response in the keratotic form of the disease. Symptomatic patients may benefit from therapy targeted to apoptosis in the future.

**Keywords:** Metallothionein; Caspase-2; Oral lichen planus; Erosive/ Atrophic; Hyperkeratotic
RETINOIC ACID INDUCES MYOGENIC TONGUE ABNORMALITIES IN FETAL MICE Wei Cong1, Bo Liu2, Ru Wang2, Jing Xiao1, 2Department of Oral Pathology, College of Stomatology, Dalian Medical University, Dalian, China; 2Department of Stomatology, the First Affiliated Hospital, Dalian Medical University, Dalian, China

Objective: To study the aberrant morphogenesis and underlying mechanism of RA induced tongue malformation in fetal mice.

Study Design: Exogenous RA was used to induce tongue malformation. The histological changes of tongue were characterized by HE staining and transmission electron microscopy. Myogenic differentiation was measured by Immunohistochemical assays and qRT-PCR of Myf5 and MyoD. The signaling genes were evaluated by qRT-PCR.

Results: In +RA fetal mice, the tongues failed to descend and flatten while maintaining a higher position at E14.5. Subcellular changes of genioglossus showed the myofibrils failed to form normal structures of sarcomeres, and muscle fibers were disorderly arranged. The levels of Myf5 and MyoD were reduced. The down-regulation of Wnt5a was positively correlated with disorderly arranged. The levels of Myf5 and MyoD were reduced.

Conclusions: The Wnt5a/CaMKII pathway may be involved in hypoplasia and disorder of tongue with decreased myogenic differentiation induced by RA.

Keywords: Tongue malformation, retinoic acid, Wnt5a, myogenesis

THE ANTAGONIZED ROLE Wnt5a WITH Camk2d IN MYOGENIC DIFFERENTIATION OF C2C12 CELLS IN RESPONDING TO RA STIMULATION Bo Liu, Wei Cong, Jing Xiao, Department of Oral Pathology, College of Stomatology, Dalian Medical University, Dalian, China

Objective: To explore the role of Wnt5a in Retinoic acid induced abnormal myogenic differentiation of C2C12 cells.

Study Design: Mouse full-length Wnt5a cDNA cloned into a pLNCX retroviral vector with a fusion tag of hemagglutinin (HA) was transfected into C2C12 cells treated with 0 or 10 μM retinoic acid (RA) as well as C2C12 cells. Expression of Wnt5a was detected by qRT-PCR and Western blot. The differentiation and expression of related molecules were measured by qRT-PCR.

Results: Wnt5a were significantly upregulated both at mRNA and protein levels in Wnt5a-C2C12 cells. The level of Wnt5a affects the cell growth of C2C12 cells and stable overexpression of Wnt5a keeps relative higher levels Myf5 and MyoD antagonizing suppressed differentiation of C2C12 cells induced by RA. A solid and direct relationship should be existed for Wnt5a with Camk2d.

Conclusions: Wnt5a potentially antagonizes the RA interruption effect on cell differentiation of C2C12 cells.

Keywords: Wnt5a, Camk2d, C2C12, retinoic acid

RETINOIC ACID EFFECTS MYOGENIC DIFFERENTIATION DOSE-DEPENDENTLY IN VITRO Bo Liu, Yuling Jiang, Jing Xiao, Department of Oral Pathology, College of Stomatology, Dalian Medical University, Dalian, China

Objective: To study the mechanism of excess RA on myogenic differentiation of C2C12 cells in vitro.

Study Design: Effects of RA on cell proliferation were detected by CCK-8 assay and Flow cytometry (FAC), and and expression of molecules related to differentiation were measured by IHC assays and qRT-PCR.

Results: RA inhibited the proliferation and differentiation of C2C12 cells dose-dependently. The cells were induced to become myotube from differentiation day 2 (D2) but more elongated and bifurcated in RA group. Expression of Myf5 reached to peak on D2, and MyoD and Myogenin on D4, both in Control and RA groups, but these levels changed depending on the dose of RA. Expression of Tbx1, Wnt5a, Ros2 and PKCθ was also up-regulated in RA group.

Conclusions: RA effects myogenic differentiation of C2C12 cells dose-dependently, and Wnt signal may play important roles in inhibition of RA on myogenic differentiation in vitro.

Keywords: Retinoic acid, C2C12, myogenic differentiation

DISTRIBUTION AND EXPRESSION OF PTEN AND Smad4 IN SALIVARY GLAND TUMORS Han Liu, Chiao Wei, Jing Xiao, Department of Oral Pathology, College of Stomatology, Dalian Medical University, Dalian, China

Objective: To analyze the expression of PTEN and Smad4 in salivary gland tumors.

Study Design: 24 of pleomorphic adenoma (PA) and 55 of adenoid cystic carcinoma (ACC) were submitted to immunohistochemistry. 19 of normal salivary gland (NSG) were used as control.

Results: In NSG, intense staining of PTEN was observed in myoepithelial and duct cells; but Smad4-positive cells only localized in seromucous cells. In cell-rich PA, high rates of PTEN in myoepithelial-like cells and Smad4 in pleomorphic tumor cells were observed; PTEN and Smad4 expression showed marked variation within tumors, just like in NSG. In ACC, PTEN and Smad4 positive rate decreased with the decreasing degree of histological differentiation (P<0.05). The loss of PTEN and Smad4 expression was briefly observed in solid type.

Conclusions: Our studies suggest that PTEN and Smad4 may synergistically play a potential role in suppressing the formation of malignant tumor in salivary glands.

Keywords: PTEN, Smad4, Salivary gland tumors

EXPRESSION OF CANCER STEM CELL MARKERS CD44, ABCG2 AND PODOPLANIN IN PROGRESSION OF ORAL SQUAMOUS CELL CARCINOMA Han Liu, Jing Xiao, Department of Oral Pathology, College of Stomatology, Dalian Medical University, Dalian, China

Objective: The aim of this study was to clarify the expression pattern of CD44, podoplanin and ABCG2 in oral squamous cell carcinoma (OSCC).

Study Design: Immunohistochemical staining of CD44, podoplanin and ABCG2 was performed in 68 primary tumor of OSCC, as well as their corresponding tumors after chemotherapy, and lymph node metastasis.

Results: Podoplanin positive rate increased with the decreasing degree of histological differentiation (P<0.05). Comparison of CSCs markers in primary and metastatic sites showed ABCG2 and podoplanin positivity to be significantly higher in lymph node metastasis than in the primary tumor (P<0.05). In Chemotherapy cases, little CD44-, ABCG2- and podoplanin-positive cells overlap around the necrosis cancer nest.

Conclusions: These results indicate that these CSCs markers are important in tumor metastasis and chemotherapy and may be useful in the prognosis of OSCC patients.
COMPARISON OF METASTATIC AND INVASIVE POTENTIAL BETWEEN SQUAMOUS CELL CARCINOMA CELL LINES IN VITRO Han Liu, Ting Guo, Jing Xiao, Department of Oral Pathology, College of Stomatology, Dalian Medical University, Dalian, China

Objective: Epithelial-mesenchymal transition (EMT) is the key process driving cancer invasion and metastasis. The aim of this study was to investigate the invasion mechanism of miR-140-mediated potential negative regulation of Smad3 expression in tongue squamous cell carcinoma (TSCC) in vitro.

Study Design: Tca8113 (mut-p53) and UM-SCC6 (wt-p53) cells migrated and attached to the transwell lower-chamber compartments. E-cadherin and Vimentin were detected by Immunocytofluorescent, and mRNA levels of miR-140 and Smad3 were detected by qRT-PCR.

Results: E-cadherin was positive in both cell lines, whereas Vimentin was partially positive. In invasive mesenchymal-type cells, E-cadherin was significantly reduced, while Vimentin was increased. Furthermore, we discovered that the expression of Smad3 was suppressed by miR-140 only in UM-SCC6 cells.

Conclusions: EMT occurs in both cell lines during their invasion. The abnormal expression of miR-140 and Smad3 in UM-SCC6 had remarkable association with the invasiveness, and p53 may involve in the process.

Keywords: EMT, miR-140, Smad3, p53

KNOWLEDGE OF PTEN GENE EFFECT THE BIOLOGICAL BEHAVIOR OF SALIVARY ADENOID CYSTIC CARCINOMA IN VITRO Ling Zhu, Han Liu, Jing Xiao, Department of Oral Pathology, College of Stomatology, Dalian Medical University, Dalian, China

Objective: Activity of the tumor-suppressor gene PTEN is reduced in different types of cancer and implicates non-responsiveness to targeted therapy. This study evaluates the expression of PTEN and its influence on biological ability in salivary adenoid cystic carcinoma (SACC) cell lines in vitro.

Study Design: PTEN-shRNA plasmid was transfected into SACC cell lines (SACC83) to knock down the expression of PTEN. The changes of proliferation, metastasis and adhesion of PTEN-shRNA cells were tested by Western blot, Colony formation and Invasion assay.

Results: PTEN-shRNA was successfully transfected into SACC83 cells and PTEN protein expression was efficiently inhibited. Compared to the scramble-shRNA group, knockdown of PTEN in SACC83 cells promoted cell proliferation, migration and invasion.

Conclusions: PTEN play an important role in Salivary Adenoid Cystic Carcinoma in vitro, thus providing a theoretical basis for further research and future experiments.

Keywords: PTEN, SACC, in vitro

THE PROFILES OF miRNAs IN RA-INDUCED CLEFT PALATE IN FETAL MICE Chao Wei1, Jing Xiao2, Ru Wang1, 1Department of Stomatology, the First Affiliated Hospital, Dalian Medical University, Dalian, China; 2Department of Oral Pathology, College of Stomatology, Dalian Medical University, Dalian, China

Objective: To study the miRNAs related molecular mechanisms in cleft palate.

Study Design: C57BL/6J mice were used to establish the retinoic acid (RA) induced cleft palate mouse model. Total RNA was extracted and miRNAs microarray chip was used to screen miRNAs. The miRNAs profiles of the cleft palate at embryonic day 15.5 were investigated using miRNAs microarray chip technology. Real-time quantitative PCR (RT-qPCR) was used to verify the results. Then TargetScan and miRanda were used to predict the target genes.

Results: 1265 miRNAs were identified in cleft palate and 36 were differentially expressed. The up-regulated (mmu-miR-140-3p) and down-regulated (mmu-miR-133b-5p, mmu-miR-762, mmu-miR-5105, mmu-miR-6538) miRNAs were validated by RT-qPCR, and were in concordance with the results of microarray chip detection. 316 target genes were predicted and 13 individual signal pathways were significant.

Conclusions: Excess RA may induce cleft palate by regulating certain miRNAs.

Keywords: miRNA profiles, retinoic acid, cleft palate

MYOFIBROBLASTS IN SALIVARY GLAND ADENOID CYSTIC CARCINOMAS PROMOTE CANCER INVASION BY MMP2 Haijie Guan, Tingjiao Liu, Collage of Stomatol- ogy, Dalian Medical University, Liaoaning, China

Objective: This study aimed to investigate the existence and characteristics of myofibroblasts (MFs) in salivary gland adenoid cystic carcinomas (ACC).

Study Design: Immunohistoechemistry was used to detect the expressions of Vimentin, α-SMA and MMP2 in 18 cases of ACC and 18 cases of normal controls. RT-PCR was used to detect the expression of MMPs in MFs. SPSS17.0 was used for statistical analysis.

Results: No significant difference was found between the expressions of Vimentin, α-SMA and MMP2 in 18 cases of ACC and 18 cases of normal controls. RT-PCR was used to detect the expression of MMPs in MFs. SPSS17.0 was used for statistical analysis.

Conclusions: Our study suggested that MFs might promote ACC invasion by MMP2.

Keywords: adenoid cystic carcinoma, myofibroblasts, MMP2

RESEARCH ON THE BIOLOGICAL FEATURES OF MYOFIBROBLASTS IN SALIVARY GLAND PLEOMORPHIC ADENOMAS Jia Liu, Hong Qu, Tingjiao Liu, College of Stomatol ogy, Dalian Medical University, Dalian, China

Objective: The objective of the present study is to investigate the existence and biological features of myofibroblasts (MFs) in pleomorphic adenomas (PA).

Study Design: Our study included 66 cases of PA, 18 cases of adenoid cystic carcinoma (ACC) and 18 cases of normal controls. Immunohistoechemical staining was performed to detect vimentin, α-SMA and MMP-2 expression. Statistical analysis was performed by SPSS17.0 software.

Results: No significant difference of Vimentin expression was found between the stroma of PAs and normal controls. However, the expression of α-SMA in PA stroma is significantly higher than that in the controls. The expression of MMP-2 in the PA stroma increased significantly compared to the controls, but decreased significantly compared to ACCs.
**Conclusions:** These results indicate that MFs in PA might have a higher invasive potential than that in normal controls, but lower invasive potential than that in ACCs.

**Keywords:** pleomorphic adenoma, myofibroblasts, MMP2

**EXPRESSION OF CK7, CK8, CK14, E-CADHERIN, \(\alpha\)-SMA, S100, VIMENTIN IN SALIVARY GLAND PLEOMORPHIC ADENOMAS**  
Yuancai Wang, Jia Liu, Tingjiao Liu, College of Stomatology, Dalian Medical University, Dalian, China

**Objective:** The present study aimed to investigate the characteristics of luminal and myoepithelial cells in salivary gland pleomorphic adenomas (PA).

**Study Design:** This study includes 66 cases of PA. Immunohistochemical staining was performed to detect the expression of CK7, CK8, CK14, E-cadherin, \(\alpha\)-SMA, S100 and Vimentin. The SPSS16.0 was used for statistical analysis.

**Results:** It was found that CK7, CK8 and E-cadherin mainly expressed in luminal cells, while CK14, S100 and Vimentin expressed in most of myoepithelial cells. The expression of \(\alpha\)-SMA in myoepithelial cells showed different patterns in different cases. In the myxoid tissue of PA, S100 and Vimentin showed strong expression, while \(\alpha\)-SMA expressed occasionally.

**Conclusions:** In PAs, CK7, CK8 and E-cadherin expression could be the markers of luminal cells, while CK14, S100 and Vimentin expression could be the markers of myoepithelial cells.

**Keywords:** pleomorphic adenoma, CK, E-cadherin, vimentin, alpha-SMA

**RESEARCH ON THE MICROVESSEL DENSITY IN SALIVARY GLAND ADENOID CYSTIC CARCINOMAS**  
Jie Tan, Tingjiao Liu, College of Stomatology, Dalian Medical University, Dalian, China

**Objective:** The present study aimed to investigate the microvessel density (MVD) of salivary gland adenoid cystic carcinomas (ACC).

**Study Design:** The study included 16 cases of ACC and 18 cases of normal controls. The expression of CD34 and \(\alpha\)-SMA was detected by standard immunohistochemistry technique. Vascular endothelial cells were highlighted by the anti-CD34 antibody, and the “hot spot” method founded by Weidner was used to quantify MVD. SPSS16.0 was used for statistical analysis.

**Results:** CD34-positive microvessels were found in both ACC and normal controls. And the MVD is much higher in ACC than that in normal controls. Extensive expression of \(\alpha\)-SMA, the marker of activated fibroblasts, was observed in ACC. But no significant correlation was found between \(\alpha\)-SMA expression and MVD.

**Conclusions:** These results suggest an active angiogenesis in ACC. But the angiogenesis might be not related with the activated fibroblasts.

**Keywords:** adenoid cystic carcinoma, microvessel density

**APPLICATION OF A MICROFLUIDIC-BASED THREE-DIMENSIONAL CULTURE DEVICE FOR TESTING ANTI-CANCER DRUG SENSITIVITY**  
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**Objective:** This work aimed to develop a microfluidic-based three-dimensional (3D) culture device to test anti-cancer drug sensitivity.

**Study Design:** Soft lithography technique was used to fabricate the SU8 master. The Polydimethylsiloxane (PDMS) layer was molded by the master and bonded to a glass substrate irreversibly. Squamous cell carcinoma cells (UM-SCC6) and salivary gland adenoid cystic carcinoma cells (ACC-M) were cocultured with HUVEC on the microfluidic device specifically. The migration and tube formation of HUVEC were quantified. The number of tip cells was counted.

**Results:** Induced by the tumor cells, HUVEC migrated into matrix. At the migration front, tip cells with long filopodia were observed. Tube formation was observed in both ACC-M and SCC-6 groups after 48h stimulation. In addition, UM-SCC-6-induced HUVEC migration presented definite direction towards tumor cells.

**Conclusions:** The microfluidic-based model developed in this study would be a useful tool to investigate tumor-induced angiogenesis in vitro.

**Keywords:** microfluidic, angiogenesis, SCC, ACC

**A MICROFLUIDIC MODEL FOR STUDYING THE ORGAN-TARGETED METASTASIS OF SALIVARY GLAND ADENOID CYSTIC CARCINOMAS**  
Jing Kong1, Yong Luo2, Bingchen Lin3, Tingjiao Liu4, 1College of Stomatology, Dalian Medical University, Dalian, China; 2School of Pharmaceutical Science and Technology, Dalian University of Technology, Dalian, China; 3Dalian Institute of Chemical Physics, Chinese Academy of Sciences, Dalian, China

**Objective:** The present work aimed to develop a microfluidic model for studying organ-targeted metastasis of salivary adenoid cystic carcinomas (ACC).

**Study Design:** The microfluidic device was consisted of two PDMS layers, sandwiching a porous polycarbonate membrane. HUVEC cells were seeded on the surface of the membrane between the top and bottom channel as endothelial barrier. Driven by a syringe pump, ACC cells flowed in the top channel to mimic circulating tumor cells.

**Results:** Primary cells isolated from the lung of SD mice were seeded in the bottom channels. CXCL12 in the bottom channel was used as the positive control. Cell culture medium without CXCL12 or cells was used as the negative control. It was found that the primary pulmonary cells and CXCL12 attracted significantly greater number of ACC cells than the negative control.

**Conclusions:** The microfluidic model developed in this study could mimic organ-targeted metastasis of ACC.

**Keywords:** microfluidic, target metastasis, adenoid cystic carcinoma, lung
Th17 IMMUNE CELL EXPRESSION IN ORAL MUCOSAL LICHEN PLANUS (OMLP) Suryaya Hani Mohd Sinon, Department of Oral Pathology and Oral Medicine, Faculty of Dentistry, Universiti Kebangsaan Malaysia (UKM), Malaysia

Objective: To determine whether Th17 immune cell expression is associated with the clinical type and pathogenesis of oral mucosal lichen planus (OMLP).

Study Design: Th17 expression was evaluated by immunohistochemistry (IHC) in FFPE archival tissue specimens (n=24), divided into two groups; control and test group(atrophic and hyperplastic OMLP). A non-parametric test has been used to make comparison between the test and control group, p values of less than 0.05 (<0.05) were considered to be statistically significant. Data was analysed using SPSS version 21.0.

Results: Th17 cells showed intense immunostaining in OMLP tissues with a significantly higher expression of positive cells than in the control group (p<0.05). There was no significant difference (p>0.05) in the distribution of types of immune cells between atrophic and hyperplastic OMLP.

Conclusions: This show Th17 cells may play an important role in the pathogenesis of OMLP, however their distribution did not differ significantly between atrophic and hyperplastic OMLP.

Keywords: immune cells; immunohistochemistry (IHC); oral mucosal lichen planus (OMLP)

METASTATIC THYROID CARCINOMA TO THE MANDIBLE MIMICKING AN ODONTOGENIC TUMOR Manal Abdulaziz Al Sheddi, Rana Al Shagroud, Abdulaziz Al Weteid, Raed Al Sadhan, Department of Oral Medicine and Diagnostic Sciences, King Saud University, College of Dentistry, Riyadh, Saudi Arabia; Department of Oral Medicine, Faculty of Dentistry, University of Riyadh, Riyadh, Saudi Arabia

Metastatic tumors to the jaw bones are infrequent, and sometimes can be the first sign of a disseminated malignancy. It is important to include metastatic tumors in the differential diagnosis of destructive jaw lesions which might help in early detection and improve the prognosis. We report a case of follicular thyroid carcinoma initially presented as an aggressive tumor in the posterior mandible in a 46 year old female. The clinical, histopathological and immunohistochemical findings are discussed.

Keywords: Follicular thyroid carcinoma, metastasis, mandible

DIAGNOSTIC ADJUNCTIVE TECHNIQUES AND THE MANAGEMENT OF ORAL POTENTIALLY MALIGNANT DISORDERS Peter James Thomson, Adam Mowatt, Philip Sloan, Vinny Wadehra, Michaela Louise Goodson, Oral & Maxillofacial Surgery, School of Dental Sciences, Newcastle University, Newcastle upon Tyne, UK; Pathology Department, Royal Victoria Infirmary, Newcastle upon Tyne, UK; Department of Cellular Pathology, Royal Victoria Infirmary, Newcastle upon Tyne, UK

Objective: To determine the accuracy of diagnostic adjunctive techniques, VELscope® autofluorescence imaging and Orcellex® brush cytology, during the management of oral potentially malignant disorders.

Study Design: 42 new patients attending the Maxillofacial Dysplasia clinic in Newcastle upon Tyne in Northern England and presenting with potentially malignant oral lesions all underwent VELscope® examination (using a 4-point severity scale), Orcellex® brush biopsy, incision biopsy for provisional dysplasia grading and subsequent laser excision. An 'overall' histopathology diagnosis for each case, based upon the most severe dysplasia seen, was used as a 'gold standard' to compare the efficacy of the diagnostic adjuncts.

Results: Overall histopathology diagnoses comprised: hyperkeratosis+lichenoid inflammation (3), PVL (14), mild (5), moderate (3) and severe dysplasia (9), carcinoma-in-situ (2), SCC (6). Whilst a trend for higher severity VELscope® scores was seen with increasing dysplasia, brush cytology was less useful under-diagnosing dysplasia severity in 31 cases.

Conclusions: VELscope® and Orcellex® brush are not independently reliable diagnostic tools.

Keywords: Potentially Malignant Disorders, Diagnostic Adjuncts, Surgery
**JUVENILE OSSYFYING FIBROMA: A CASE REPORT WITH 6 YEARS OF FOLLOW-UP**
Ana Carolina Uchoa Vasconcelos, Ana Paula Gomes, Adriana Eges, Marcos Antônio Torriani, Romeu Berlon Fernandes Filho, Universidade Federal de Pelotas

A 67-year-old woman was referred to the School of Dentistry/Brazil, in August/2013, complaining about a swelling on the right posterior maxilla, with symptoms of nasal obstruction and infra orbital pain. The intraoral examination revealed a vestibular expansion mass, measuring 2.0 x 1.5 cm. Computed tomography (CT) showed a large, well-demarcated, unilocular and hypodense mass in the posterior right side of maxilla. The patient had a history of previous surgery, in the same site, about 3 years ago, with histopathological diagnosis compatible with JOF. An excisional biopsy was performed, confirming this diagnosis. Microscopically, the neoplasm consisted of a cellular fibrous connective tissue, with several spindle or oval-shaped fibroblasts, presenting large nuclei and cytoplasmic with precise limits. Mitotic figures, clusters of giant multinucleated cells, and a mineralized component showing spherical concentric lamellated osicles and trabeculae of cellular woven bone were also observed. Currently, after 6 years, there was still no evidence of recurrence.

**Keywords:** Ossifying Fibroma, jaw, maxilla

**GLOMUS TUMOR: A CASE REPORT**
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The glomus tumor is derived from the arteriovenous anastomosis apparatus and accounts for less than 2% of soft tissue tumors (1,2,3). A glomus tumor is typically located in the head and neck. It can be seen in a variety of locations, including the oral cavity, tongue, and maxillary sinus.

**Objective:** To investigate the effect of the oral administration of hydroalcoholic extract of Brazilian red propolis (HERP) on the development and immunohistochemical expression of Ki-67 and p16INK4A in DMBA-induced oral squamous cell carcinomas (OSCC) in 25 rats randomly assigned into 5 groups.

**Study Design:** Carcinogenesis was induced in lower lip by applying DMBA topically, on every other day. The HERP was orally administered to the RP10, RP50 and RP100. After 25 weeks, animals were euthanized for post-mortem removal of the area to histochemical/immunohistochemical analysis.

**Results:** The administration of HERP significantly inhibited of OSCC in 40% of RP50 and RP100. The mean tumor volume seen in TUM1 and TUM2 were significantly bigger than in RP50 and RP100. Eighteen DMBA-induced OSCC showed positivity for Ki-67. The p16INK4A, 70% of the OSCC and 80% of the dysplastic epitheliums were positive.

**Conclusions:** Results suggest that HERP exerts chemopreventive activity on the progression of DMBA-induced epithelial dysplasia to invasive OSCC.

**Keywords:** Extract oil, Brazilian red propolis, carcinogenesis

**OSTEOLASTOMA OF THE MAXILLA: A CASE REPORT**
Rosa Alejandro Castro Araya, Juana Olga Salinas Flores, Iris Espinoza Santander, Loreto Castellón, Veronica Palacios Inostroza, Monica Ramirez, Carolina Martinez, Rosa Alejandro Castro Araya, Verónica Palacios Inostroza, Reference Centre for Health “Cordillera Oriente,” Peñalolen, Santiago de Chile; 2Universidad Católica de Chile, Faculty of Medicine; 3Universidad de Chile, Faculty of Medicine

**Objective:** To correlate clinical with radiological stages of head and neck cancers (HNCs) using CT scan.

**Study Design:** 2-year, Cross sectional, clinico-pathological & radiological study of HNCs at UCH.

**Results:** HNCs included 29 (53.7%) males and 25 (46.3%) females. Histologic types were 27.8% SCC, 24.1% nasopharyngeal carcinoma (NPC) and 14.8% mucoepidermoid carcinoma (MEC). SCC & MEC were more in females (66.7 & 62.5% respectively) while NPC was more in males (76.9%). Clinical stages were II = 5.6%; III = 29.6% & IV = 64.9% while radiological stages were III = 9.3% & IV = 90.7%. Difference between the clinical stages and radiological stages of HNCs was significant (X2= 366.6; p=0.00 & r = 0.541).

**Conclusions:** CT scan was a useful tool for tumor size upgrade and detection of hidden cervical node involvement alongside distant metastasis. Radiological (CT scan) TNM staging was more accurate than clinical TNM staging for HNCs and the correlation was significantly positive.

**Keywords:** Clinical, radiological TNM staging, HNCs, CT scan

**EFFECT OF BRAZILIAN RED PROPOLIS ON THE DEVELOPMENT AND IMMUNOHISTOCHEMICAL EXPRESSION OF Ki-67 AND p16INK4A IN DMBA-INDUCED ORAL SQUAMOUS CELL CARCINOMAS**
Genecy Calado De Melo, José Cleveilton Dos Santos, Esau Pinheiro Dos Santos, Danielle Rodrigues Ribeiro Cavalcante, Juliana Cordeiro Cardoso, Ricardo Luiz Cavalcanti De Albuquerque Júnior, Department of Oral Pathology, Tiradentes University, Aracaju/SE, Brazil; 2Laboratory of Morphology and Structural Biology Institute of Technology and Research -ITP, Aracaju/SE, Brazil

**Objective:** To investigate the effect of the oral administration of hydroalcoholic extract of Brazilian red propolis (HERP) on the development and immunohistochemical expression of Ki-67 and p16INK4A in DMBA-induced oral squamous cell carcinomas (OSCC) in 25 rats randomly assigned into 5 groups.

**Study Design:** Carcinogenesis was induced in lower lip by applying DMBA topically, on every other day. The HERP was orally administered to the RP10, RP50 and RP100. After 25 weeks, animals were euthanized for post-mortem removal of the area to histochemical/immunohistochemical analysis.

**Results:** The administration of HERP significantly inhibited of OSCC in 40% of RP50 and RP100. The mean tumor volume seen in TUM1 and TUM2 were significantly bigger than in RP50 and RP100. Eighteen DMBA-induced OSCC showed positivity for Ki-67. The p16INK4A, 70% of the OSCC and 80% of the dysplastic epitheliums were positive.

**Conclusions:** Results suggest that HERP exerts chemopreventive activity on the progression of DMBA-induced epithelial dysplasia to invasive OSCC.

**Keywords:** Extract oil, Brazilian red propolis, carcinogenesis
Dentistry; 4Children’s Hospital Dr. Luis Calvo Mackenna; 5Complejo Asistencial Dr. Sótero del Río

A 16-year-old female was referred for presenting a gradually enlargement mass of the left maxilla since 3 months. The lesion was asymptomatic and covered by normal mucosa, but tooth 2.3 was mobile and sensitive to percussion and tooth 2.4 was displaced. Radiographic examination revealed an ill-defined radio-lucency and displacement of teeth 2.3 and 2.4. The lesion extended from tooth 2.2 to 2.4. The CT showed a large expansive mass eroding through the left vestibular cortical.

An incisional biopsy was performed and a diagnosis of osteoblastoma was rendered. Later the patient underwent a partial maxillectomy and the histological examination confirmed the diagnosis of osteoblastoma.

**Keywords:** osteoblastoma, aggressive osteoblastoma, Gnathic Maxilla, Osteoblastoma-like osteosarcoma

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**IMMUNOEXPRESSION OF OSTEOBLASTIC FACTORS IN ODONTOGENIC TUMOR AND CYSTS** Rosa de Almeida Freitas, Hébel Cavalcanti Galvão, Lélia Batista de Souza, Leão Pereira Pinto, Melka Coelho Sá, Felipe Rodrigues de Matos, Ana Luiza Dias Leite de Andrade, Clarissa Favero Demeda, Antonio De Lisboa Lopes Costa, Oral Pathology, Federal University of Rio Grande do Norte, Natal, Brazil

**Objective:** The purpose of this study was to investigate the mean expression ratio between osteoblastic factors stimulating activity (IL-1, RANKL) and inhibitors factors (IL-10, OPG) in radicular cysts (RCs), residual cysts (ReCs), dentigerous cysts (DCs), solid ameloblastomas (SAs) and keratocystic odontogenic tumors (KOTs).

**Study Design:** A total of 20 RCs, 20 ReCs, 20 DCs, 20 KOTs, 18 SAs and 15 dental follicles (DFs) were evaluated. The immunopositive cells were counted in 10 microscopic high-power fields (400×) in epithelium and mesenchyme. A comparative analysis of the data was performed using the nonparametric Wilcoxon signed rank test.

**Results:** The results demonstrate that SAs showed higher number of cases with ratio OPG<RANKL and the DC IL-10>IL-1 when compared to other cysts and tumors (P<0.05).

**Conclusions:** Our results indicate that imbalance of osteolytic factors stimulating activity (IL-1, RANKL) and inhibitors factors (IL-10, OPG) plays an important role in biological behavior of the studied cysts and tumors. Supported by CNPq.
EFFECT RADIATION ON RESIN CEMENTS ELASTIC MODULUS: PRELIMINARY STUDY

Estela Kaminagakura, Rubens Nisei Tango, Maria Fernanda, Bartholo Silva, Débora Maria, Coppola Rodrigues, Anna Karina, Figueiredo Costa, Alexandre Luiz Souto Borges, University of São Paulo State

Objective: to verify the effect of irradiation on resin cements elastic modulus.

Study Design: Eight bar-shaped specimens (20mm x 2mm x 6mm) were obtained of each resin cement (conventional - Rely-X ARC and self-adhesive - Rely-X U200). Half of specimens was light-cured with a LED (1100mW/cm2) during 160s, and the remainder was polymerized chemically (n=2). After 24h of storage at dark in water at 37°C, specimens' elastic modulus was obtained by acoustic method. Half of them were submitted to x-ray irradiation under 60Gy. After additional 24h, specimens were tested for elastic modulus again. Data of elastic modulus were submitted to 3-way ANOVA and to Tukey’s test (α=0.05).

Results: ANOVA showed significance of resin cement type/polymerization interaction and also of storage/irradiation (p<0.05). In general, irradiated samples presented higher elastic modulus compared to control groups.

Conclusions: Irradiation with high energy can improve materials immediate elastic modulus.

Keywords: Radiotherapy, resin, store

NEUROFIBROMATOSIS 1 ASSOCIATED WITH CENTRAL GIANT CELL GRANULOMA OF MAXILLA

Veronica Eugenia Palacios, Juan Antonio Garrido, Rodrigo Goya, Rosa Alejandra Castro, Diego Alcocer, 
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2Sotero del Rio Hospital

It is presented two evaluated patients having neurofibromatosis type 1 and Central Giant Cell Granuloma. Patients have shown expansive painless enlargement of left maxilla, progressively developed since 6 and 12 years of age. The two children were diagnosed with Neurofibromatosis type 1 by the presence of classical clinical features that had arisen from their early stages of childhood. Central Giant Cell Granulomas have been diagnoses by biopsy, both patients were treated using intrallesional corticosteroid infiltration therapy obtaining partial response in both cases, reason why the surgical removal of the lesion remains was decided. Finally, the two cases have been followed up and there was not recurrence to date.

Keywords: Neurofibromatosis type 1, Central Giant Cell Granuloma, Maxilla

AMELOBLASTIC FIBROMA: REPORT OF A RARE CASE

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Ameloblastic fibroma is a rare mixed odontogenic tumor, consisting of both epithelial and mesenchymal components. Here we present a case of 37 year old women who presented with pain and swelling in her right mandible. Both biopsy and surgical excision samples revealed palisading nests and cords of epithelial cells in fibromyxoid stroma. Limited areas of hypercellularity and rare mitoses in the mesenchymal component may cause difficulty in differential diagnosis with fibrosarcoma in small biopsies. Ameloblastic fibroma is considered to be a benign tumor and treatment is generally conservative which makes differentiation from malignancies like ameloblastoma and ameloblastic fibrosarcoma important.

Keywords: ameloblastic fibroma, odontogenic tumor, ameloblastoma, ameloblastic fibrosarcoma

A LYMPHOEPITHELIAL CARCINOMA OF THE LOWER LIP

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2Department of Plastic and Reconstructive Surgery, Marmara University, Istanbul, Turkey

Lymphoepithelial carcinoma (LEC) is a rare category of malignant neoplasms that share morphologic features with undifferentiated nasopharyngeal carcinoma. A rare case of LEC of the lower lip is described. 48 year old male patient has been suffering from swelling on lower lip for 6 years. The patient has undergone lower lip excision and bilateral radical cervical lymph node dissection. On macroscopic examination, solid tumor was measured 5.5 x 5 x 2 cm in diameter with irregular borders on the mucosal part of lower lip. On H&E slides; undifferentiated malignant epithelial cells forming nests and sheets, accompanied by dense lymphoplasmacytic infiltration were seen. We reported the case as ’lymphoepithelial carcinoma, pT3N0, concerning WHO (2005) classification’. Lymphoepithelial carcinoma is a subtype of SCC in AJCC/UICC TNM (2013) classification.

Keywords: lymphoepithelial carcinoma, squamous cell carcinoma, lip

ADENOID CYSTIC CARCINOMA OF THE PALATINE TONSIL

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2Department of Otolaryngology Head Neck Surgery, Marmara University, Istanbul, Turkey

Adenoid cystic carcinoma (ACC) is malignant neoplasms that accounts for 1-2% of all head and neck malignancies and 10-15% of all salivary gland malignancies. We present a case of ACC arising from the tonsilla palatina that is extremely rare localization. The patient is a 44 year-old woman, complaining about swollen tonsils, not get over despite using antibiotics. She has undergone tonsilectomy upon the clinical diagnosis as tonsillitis/tonsillar hypertrophy. Macroscopic examination showed irregular, soft, pink-beige coloured, focal hemorrhagic pieces of tonsillar tissue. On the H&E slides, tumor consists of cells with scanty cytoplasm and hyperchromatic nuclei; forming cribriform pattern and solid islets separated by fibrous septa. These cells showed immunoreactivity with CD117, CEA and also with EMA; the latter only around tubular differentiation areas.

Keywords: adenoid cystic carcinoma, palatine tonsil, minor salivary gland carcinoma

DEEP COMPROMISE ANGIOMAS: REPORT OF DIFFERENT EXPRESSIONS IN FOUR CASES

Raul Saez Salgado, Enrico Escobar, Marcela Farias Vergara, Jorge Pinares, Universidad de Chile, Faculty of Dentistry, Department of Oral Pathology and Oral Medicine, Santiago, Chile

To show the diverse biological, clinical behavior and the different anatomical areas that might be compromised.

Study Design: To describe four different cases and correlate them to diverse morphological patterns explaining their clinical evolution.

Case 1: 41-year-old female, regarding growth located in left mandibular angle, painful, activated after dental extraction.
Case 2: 27-old-year female, consult for acute dental pain. Physical general examination detects capillary angioma in right frontal and maxillary areas of face, intraoral exam reveals gingival angioma in maxillary tuberosity zone.

Case 3: 14-year-old male presents blue maculae and tumor located in lower lip vermilion and internal mucosa, in continuity adjacent gingiva and mouth floor.

Case 4: 45-year-old female slowly growing mass in submandibular and parapharyngeal zone.

Conclusions: A large diversity in morphology, anatomical areas, and clinical expressions. This diversity suggests that the etiology and/or pathogenic mechanisms are different.

Keywords: deep angiomias, clinical diversity, different etiology

ABSTRACT ITEM PP-455 [WITHDRAWN].

ANALYSIS OF CLINICAL AND HISTOLOGICAL DIAGNOSIS AT DEPARTMENT OF MAXILLOFACIAL SURGERY, FIRST CENTRAL HOSPITAL OF MONGolia Delgertsetseg Jargalsogt1, Uranchimeg Dolgorjav2, Bulgan Chadraabal2, Oyundari Battulga2, 1Department of Maxillofacial Surgery, School of Dentistry, HSUM; 2Department of Preventive and Pediatric Dentistry, School of Dentistry, HSUM

Objective: To describe a difference between clinical and histological diagnosis of biomaterials, which was taken from patients at Department of Maxillofacial Surgery, First Central Hospital of Mongolia.

Study Design: The subjects of our study consisted of 1471 biomaterials, which were taken 2008 to 2012. All histological specimens were prepared by one technician and histological diagnosis was done by the one general pathologist. We did analysis between clinical and pathological diagnosis by SPSS software.

Results: There are 21% (309) malignant tumor case and 79% (1162) other lesions (p < 0.01). The difference of clinical and histological diagnosis is 44% (133) of malignant tumor and 63% (739) of other lesions (p < 0.01).

Conclusions: We are considered that all clinical diagnosis doesn’t approve by histological diagnosis. It may be related with not have oral pathologists, not be taken biopsy pre and post operation and not have proper technique and equipments.

Keywords: malignant tumor, histological diagnosis, clinical diagnosis

RADIOGRAPHIC STUDY OF THE MENTAL FORAMEN IN MONGOLIAN POPULATION Khentii Lkhamsuren1, Unurzul Altankhuyag2, Delgertsetseg Jargalsogt1, Ayanga Gongorjav1, Tserendulam Dashnyam1, Bayasgalan Rentsen4, Erdenetsogt Jargaltsogt1, 1Department of Oral and Maxillofacial Surgery, School of Dentistry, Health Sciences University of Mongolia, Ulaanbaatar, Mongolia; 2Department of Preventive and Pediatric Dentistry, School of Dentistry, Health Sciences University of Mongolia, Ulaanbaatar, Mongolia; 3Department of Oral and Maxillofacial Surgery, National Center for Maternal and Child Health, Ulaanbaatar, Mongolia

Objective: To determine the most common position of the mental foramen in a Mongolian population and to compare the results with those reported for other populations.

Study Design: This study identified the position of the mental foramen in a more representative radiographs of the Mongolian population. Two hundred and twenty two (95 males, 127 females) panoramic radiographs of a Mongolian population from dental centers were studied. The patients’ age ranged from 15 to 66 years, with a mean age of 27.4 years. Ethnic, gender differences investigated.

Results: In patients (58.8%), the mental foramen was below the second premolar. In 30.2%, it was between the first and second premolar, and in 2.5%, it was below the first premolar.

Conclusions: It is important to know the position of the mental foramen for the placement of osseointegrated implants in the mandibular premolar region. The most common position of the mental foramen of Mongolians is below the second premolar.

Keywords: mental nerve, mental foramen, panoramic, radiographic measurement, anatomy

EXPRESSION OF NEUROENDOCRINE CELL MARKERS IN AMELOBLASTOMAS Takanaga Ochiai, Keisuke Nakano, Hiromase Hasegawa, Department of Oral Pathology, School of Dentistry, Matsumoto Dental University Japan

Objective: Although some investigators reported CD56 expression in ameloblastomas, neuroendocrine differentiation is still unknown. Therefore, we aimed to determine localization of neuroendocrine cell markers in ameloblastomas.

Study Design: Twenty-five archived cases were selected. CD56, synaptophysin and chromogranin A were analyzed by an immunohistochemistry, followed by gene expression analysis by RT-RCR on formalin-fixed paraffin embedded samples.

Results: Sixteen cases showed that CD56 expressed in columnar cells. Two cases demonstrated synaptophysin in small part of the nest. Chromogranin A was not found in all cases. Interestingly, we found two case that co-expressed CD56 and synaptophysin in some parts of columnar cells. Furthermore, one case expressed mRNA of CD56 and synaptophysin.

Conclusions: Some investigators reported CD56 expression in tooth germ development and ameloblastoma. It has also been reported that neural crest-derived cells emigrated to enamel organ. Our result might suggest that CD56-positive cells partially differentiated into synaptophysin-positive cells in ameloblastomas.

Keywords: ameloblastoma, neuroendocrine cell, CD56, synaptophysin

LOCAL ADMINISTRATION OF ALLOGENEIC MESENCHYMAL STEM CELLS (MSCs) AT DYSPLASIA STAGE RETARDS THE PROGRESSION OF ORAL SQUAMOUS CELL CARCINOMA (OSCC) Anita Plazia1, Martha Arango2, Flavia Bruna1, Iris Espinoza2, Paulette Conget2, 1Doctorado en Ciencias Médicas, Facultad de Medicina, Universidad Austral de Chile, Valdivia, Chile; 2Instituto de Ciencias, Facultad de Medicina Clínica Alemana Universidad del Desarrollo, Santiago, Chile

Objective: Worldwide, OSCC accounted for 120,000 deaths per year. Currently, there are no data related to the impact of donor MSCs on the progression of OSCC. The aim of present work was to determine whether local administration of allogeneic MSCs, at dysplasia stage, modify OSCC progression.

Study Design: OSCC was induced in Syrian hamster by topical application of a tobacco-related carcinogen. Vehicle, 1 or 3 million allogeneic MSCs were injected nearby dysplastic lesions. Their evolution (hyperplasia→dysplasia→papilloma→
carcinoma) was assessed macroscopically and histologically (H&E, immunohistofluorescence).

**Results:** In the animals that received the vehicle, lesions progressed up to carcinoma (77%). In those that received MSCs, dysplastic lesions did not progress (3/4) or advanced to papilloma stage (1/4).

**Conclusions:** Our data suggest that local administration of allogeneic MSCs not only is unharmful for individuals with OSCC but also prevents the progression of dysplastic precancerous lesions.

**Keywords:** OSCC, dysplasia, MSC, progression

**EXPRESSION OF CYCLOOXYGENASE 2 IN SOLID AMELOBLASTOMA AND DENTIGEROUS CYST**

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**Objective:** To evaluate and compare the expression of Cox-2 in solid ameloblastoma and dentigerous cyst.

**Study Design:** 10 cases diagnosed as solid ameloblastoma and 9 cases of dentigerous cyst from School Dentistry of the University of Chile were analyzed with an immunohistochemical marker to Cox-2.

**Results:** The mean positivity for CK 1/10 and CK 4 in the observed samples, aiming to explore the possibility of a junctional keratin pattern of expression in LJSGH compared to control 2 in solid ameloblastoma and dentigerous cyst.

**Conclusions:** The solid ameloblastomas showed a Cox-2 overexpression compared with dentigerous cysts. Cox-2 may therefore influence the biological behavior and the local invasiveness of solid ameloblastoma.

**Keywords:** Solid Ameloblastoma, dentigerous cyst, Cox-2

**LOCALIZED JUVENILE SPONGIOTIC GINGIVAL HYPERPLASIA ORIGINATES FROM JUNCTIONAL GINGIVAL EPITHELIUM: AN IMMUNOHISTOCHEMICAL STUDY**

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**Objective:** To immunohistochemically evaluate the cytokeratin pattern of expression in LJSHG compared to control samples, aiming to explore the possibility of a junctional epithelial histogenetic origin of the lesion.

**Study Design:** Ten cases of LJSHG were semiquantitatively evaluated for the immunohistochemical pattern of cytokeratins (CK) 1/10, 4, 8/18 and 19. Ten reactive fibro-epithelial hyperplasia were used as controls.

**Results:** The mean positivity for CK 1/10 and CK 4 in the gingival epithelium (GE) was 80% and 5% for CK 8/18 and CK 19. LJSHG showed a somewhat more scattered pattern of CK expression with a mean positivity of 65% for CK 19, 60% for CK 8/18, 30% for CK4 and 5% for CK 1/10. The differences were statistically significant (p<0.01).

**Conclusions:** LJSHG may originate from junctional epithelium (JE) exteriorized from the gingival sulcus. Exteriored JE would be more prone to irritation from perhaps a variety of sources, resulting in inflammation and ultimately hyperplasia.

**Keywords:** Localized juvenile spongiotic gingival hyperplasia; Cytokeratin; Junctional epithelium; Sulcular epithelium; Gingiva

**NON OSSIFYING FIBROMA OF THE MANDIBLE**

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**Introduction:** The non ossifying fibroma (NOF) is a benign neoplastic lesion most commonly seen in the long bones in children. NOF of the mandible is rare. We report a case of NOF in the mandible of a 12-years-old boy and describe clinical, radiological and histologic features.

**Case:** A 12-year-old boy was referred for asymptomatic lesion of the left mandibular corpus. Radiological examination showed an osteolytic process with expansile corticals. The tumour was enucleated. The histology concluded to a non ossifying fibroma.

**Discussion:** While the clinical and radiological features of NOF in long bones are pathognomonic, the pre-operative diagnosis in the mandible is unlikely. The differential diagnosis may be done with an ameloblastoma. The regression is spontaneous in long bones. However, the resection is done in mandibular location with no recurrence.

**Conclusion:** The behaviour of NOF is different in mandible than in long bones, and must be treated.

**Keywords:** fibroma, mandible, non ossifying, surgery

**THE USE OF PIEZOSURGERY IN ORAL SURGERY**

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**Objective:** Piezoelectric surgery is a relatively new technique of bone surgery that could be utilized in a wide range of surgical procedures. It’s a real progress in oral surgery. We think that it must be more used by maxillo-facial surgeons.

**Study Design:** We present different oral surgery procedures such as tooth extraction, sinus lift, bone splitting, bone osteotomy and bone grafting.

**Results:** We demonstrate the advantages in per-operative and post operative time. Piezolectric surgery is a real alternative method of minimally invasive surgery. It provide precision in cutting with no loss in bone and no bleeding in bone tissue. It’s also safe on soft tissue. Piezosurgery permit faster bone regeneration and healing process.

**Conclusions:** The ultrasound unit allows for precise removal of bone with minimal risk of injury to underlying soft tissues and faster bone regeneration.

**Keywords:** Piezosurgery, ultrasound, bone surgery

**ORBITAL COMMINUTIVE ROOF FRACTURES: A REPORT OF TWO CASES**

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**ORBITAL COMMUNITID ROOF FRACTURE: REPORT OF TWO CASES**

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**Introduction:** Orbital roof fractures are typically associated with trauma of the frontal bone in violent trauma. It may disrupt the oculomotoricity and allow a frontal asymmetry. The patients usually apply correction.

**Case Reports:** A 27-year-old male and a 47 years old male are referred to treat an asymmetric and impacted frontal bone with no evident orbital roof. The surgery consisted for grafting iliac bones with a coronal approach. The result is acceptable with any complications.

**Discussion:** Isolated roof fracture in adult are uncommon and most associated with other crano-facial fractures in significant trauma. The CT scan is recommended. The approach of these fractures is via coronal flap. The iliac bone grafting even taked by piezosurgery is a good indication with less complication.

**Conclusion:** Isolated comminuted roof fracture are rarely observed. The prognosis depends on the associated lesions that can require a team work associating maxillo-facial surgeon, neurosurgeon.

**Keywords:** Orbital roof, fracture, coronal approach, bone graft

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**PLEOMORPHIC ADENOMA OF HARD PALATE**

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Pleomorphic adenoma, also known as benign mixed tumour, is the common salivary gland tumour encountered. Most of these tumours occur in major salivary glands; parotid gland happens to be the commonly involved one, but also in minor salivary glands, especially in the palatal region. Clinically, pleomorphic adenoma appears as a painless slowly growing firm mass. The tumor can occur at any age but it is most common in young and middle aged adults. Treatment of choice is surgical excision. The prognosis is excellent, with a very high cure rate. Malignant degeneration is a potential complication, resulting in carcinoma ex pleomorphic adenoma. This case report discusses a case of an intraoral salivary gland tumour (in the hard palate) after complete excision, confirmed by a biopsy. Even though these tumours are painless and slow growing ones, it is important to identify these cases rather early and extirpate them totally.

**Keywords:** Pleomorphic adenoma; Benign mixed tumour; Salivary gland, hard palate.

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**KAPOSI SARCOMA AND HHV8**

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Kaposi sarcoma (KS) is a multifocal angio proliferative disorder of vascular endothelium, usually described in HIV postif patients, and primarily affecting mucocutaneous tissues with the potential to involve viscera. Four clinical variants of classic, endemic, iatrogenic, and epidemic KS are described for the disease, each with its own natural history, site of predilection, and prognosis. All forms of Kaposi sarcoma may manifest in the oral cavity and Kaposi sarcoma—associated virus (KSHV), also known as Human Herpes Virus type 8, appears essential to development of all clinical variants. In the absence of therapy, the clinical course of KS varies from innocuous lesions seen in the classic variant to rapidly progressive and fatal lesions of epidemic KS. Our case report provides an overview of clinical aspects, pathogenesis and treatment about a non HIV postif patient presenting the classic form of KS related to HHV8.

**Keywords:** Kaposi sarcoma, oral cavity, classic form of KS, HHV8

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**CENTRAL GIANT CELL GRANULOMA OF THE POSTERIOR MAXILLA: A CASE REPORT**

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Central giant cell granuloma (CGCG), formerly called gaint cell reparative granuloma, is a benign lesion of unknown etiology but there are indications that genetic abnormalities are implicated. It occurs most commonly in the mandible but can also occur in maxilla. The case reported here resembled a wide variety of condition that led to a misdiagnosis both on clinical and radiographic examinations but was histopathologically diagnosed as CGCG.

**Keywords:** Central giant cell granuloma, Intraosseous lesion, Radiolosency
EVALUATION OF CD86 EXPRESSION IN EROSIIVE ORAL LICHEN PLANUS Masoumeh Mehdipour1, Ali Taghavi Zenooz2, Ayla Bahramian2, Rana Attaran2, Narges Gholizadeh3, Negar Khezri3, 1Department of Oral Medicine, Shahid Beheshti Dental University, Tehran, Iran; 2Department of Oral Medicine, Tabriz Dental University, Tabriz, Iran; 3Department of Pediatric Dentistry, Hamedan Dental University, Tabriz, Iran; 4Department of Oral Medicine, Tehran Dental University, Tehran, Iran

Objective: Erosive Oral lichen planus is a mucocutaneous disorder of indefinite etiology. Increasing T- cells and other immune regulating cells such as dendritic and langerhans cells was seen in lichen planus. CD86 is one of these molecules expressed on dendritic cells and macrophages.

Study Design: This study aimed to evaluate expression of CD 86 in erosive oral lichen planus.

Results: Biopsy from 22 patients with erosive oral lichen planus was taken and normal marginal mucosa around of these lesions were served as controls. Immunohistochemical process were used. Collected data were analyzed by Fisher equation; using SPSS 16 software. This study showed an increased number of CD 86 expressing cells in erosive lichen planus lesions (P<0.001), while in normal mucosa no cells expressed CD86.

Conclusions: High expression of CD86 in erosive lichen planus lesions shows an increased activation of APCs while these cells are inactive in normal mucosa.

Keywords: Erosive oral lichen planus, CD86, Dendritic cells

EVALUATION OF SERUM CALCIUM LEVEL IN PATIENTS WITH ORAL LICHEN PLANUS Masoumeh Mehdipour1, Ali Taghavi Zenooz2, Ayla Bahramian2, Rana Attaran2, Narges Gholizadeh3, Mahdieh Kooh Navard3, 1Department of Oral Medicine, Shahid Beheshti Dental University, Tehran, Iran; 2Department of Oral Medicine, Tabriz Dental University, Tabriz, Iran; 3Department of Pediatric Dentistry, Hamedan Dental University, Tabriz, Iran

Objective: Relationship of occurrence of the tumor is parotid gland. Plasmacytoid type myoepithelioma of the hard palate is a rare malignant lesion, more common in children. Extremely rare to see RMS at 27 years old. On the other hand, lip is unusual localization for rhabdomyosarcoma. Tumor is diagnosed as histopathological and immunohistochemical examination.

Keywords: Rhabdomyosarcoma, lip, adult patient

FACIAL PAIN DUE TO ELONGATED STYLOID PROCESS: A CASE REPORT AND LITERATURE REVIEW Nilüfer Ersan, Mehmet Ilgüy, Dilhan Ilgüy, Department of Dentomaxillofacial Radiology and Oral Medicine, Yeditepe University Faculty of Dentistry, Istanbul, Turkey

Eagle syndrome, which is an uncommon sequel to elongation of the styloloid process, can manifest as pain in the anterolateral neck, often with referred pain to the ear and temporomandibular joint area. A 43-year old female patient presented Dentomaxillofacial Radiology Department with un relieving bilateral otalgia and facial and neck pain. Dental history of the patient revealed that the patient was being treated for the temporomandibular joint disorder. A panoramic radiograph was taken as a screening film after the clinical examination. Bilateral styloloid process elongation was detected. The cone beam computed tomography also revealed bilateral ossification of the stylohyoid ligament and the patient was diagnosed as having Eagle syndrome. Patient was referred to surgical treatment. Surgical shortening of the structure provided definitive relief of the patient’s symptoms. In cases of unexplained complaints in the head and neck region it should be considered in the differential diagnosis as it has therapeutic consequences.

Keywords: Eagle syndrome, elongated styloid process, cone-beam computed tomography

Rhabdomyosarcoma of the upper lip in an adult patient (case report) Bengu Cobanoglu1, Mustafa Simsek2, Serkan Senol1, 1Department of Pathology, Istanbul Medeniyet University, Goztepe Education and Research Hospital; 2Department of Anesthesiology and Reanimation, Dr. Siyami Ersek Education and Research Hospital

Purpose: Rhabdomyosarcoma (RMS) is high grade, malignant mesenchymal neoplasm in which the tumors are thought to arise from skeletal muscle cells. In the head and neck region, RMS is relatively uncommon in the lip and it is rarely seen adults. The purpose of this case report was present an interesting case of rhabdomyosarcoma and describe histopathologic and immunohistochemical finding.

Case: A 27-year-old woman presented with an erythematous nodulary mass involving the upper lip. An excisional biopsy was performed under local anesthesia. Histologically and immunohistochimically tumor was diagnosed as embryonal RMS. The patient was treated by postoperative chemotherapy and radiotherapy. After 36 months of follow-up, there was no recurrences.

Conclusions: RMS is a rare malignant lesion, more common in children. Extremely rare to see RMS at 27 years old. On the other hand, lip is unusual localization for rhabdomyosarcoma. Tumor is diagnosed as histopathological and immunohistochimistical examination.

Keywords: Rhabdomyosarcoma, lip, adult patient

Plasmacytoid Type Myoepithelioma of the Hard Palate (Case Report) Bengu Çobanoglu1, Mustafa Simsek2, A. Bahar Ceyran3, Serkan Senol1, 1Department of Pathology, Istanbul Medeniyet University, Goztepe Education and Research Hospital; 2Department of Anesthesiology and Reanimation, Dr. Siyami Ersek Education and Research Hospital, Turkey

Purpose: Myoepitheliomas are arise from myoepithelial cells. The tumors are unusual and uncommon tumors that constitute only 1% of all salivary gland neoplasms. Primary site of occurrence of the tumor is parotid gland.
Case: An 65-year-old male presented with an asymptomatic, solid, well-circumscribed, palatal lesion for 2 years. Tumor size gradually increases and reaches 2 cm. A clinical diagnosis of pleomorphic adenoma (PA) or mucoepidermoid carcinoma (MEC) were suggested. A total excision of the lesion was carried out under local anesthesia. Tumor was diagnosed as myoepithelioma, plasmacytoid type.

Conclusions: Myoepitheliomas are benign neoplasms. These tumors can occur at any age but are more common in adults (average age of 36.3 years). The plasmacytoid myoepithelioma from palate is considered as a rare entity. Herein is present a case of a myoepithelioma arising in the hard palate of a 65-year-old male and describe histopathologic and immunohistochemical finding.

Keywords: Myoepithelioma, hard palate, old male

EVALUATION OF WNT/BETA-CATENIN AND SONIC HEDGEHOG SIGNALING PATHWAYS DURING TONGUE MALIGNANT TRANSFORMATION IN WILD-TYPE AND GALECTIN-3 DEFICIENT MICE CHALLENGED BY THE CARCINOGEN 4NQO

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Objective: To evaluate Wnt/beta-catenin and Sonic Hedgehog pathways in dysplasias and carcinomas developed in tongue of wild-type (WT) and galectin-3 deficient (KO) mice.

Study Design: 37 WT and 38 KO mice were challenged with 4NQO and killed at different times. Tongues were removed, processed, and submitted to an immunohistochemical approach to study Wnt-1, Wnt-3A, Shh and Gli-3 proteins. Kruskal-Wallis test was employed.

Results: Dysplasias and carcinomas from WT and KO mice were negative for Wnt-1. Wnt-3A expression was higher in WT than KO mice (p<0.05). Shh expression was significantly higher in both lesions from WT mice (p<0.0001), and in tongue malignant transformation only in the WT group. Gli-3 immunoreactivity decreased from dysplasia to carcinoma in WT mice, but increased in KO mice (p>0.05).

Conclusions: Activated Wnt/beta-catenin pathway was seen in both groups of mice, whereas the Sonic Hedgehog pathway was associated with tongue malignant transformation only in WT mice.

Keywords: oral cancer, gsk3beta, immunohistochemistry, prognostic factors, tissue microarray

IMMUNOHISTOCHEMISTRY EXPRESSION OF GS3BETA AND P-GS3BETA SERINE 9 IN A SAMPLE OF ORAL SQUAMOUS CELL CARCINOMA

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Objective: To determine the role of glycogen synthase kinase-3 beta (GSK3beta) and p-GSK3beta in oral squamous cell carcinomas (OSCC).

Study Design: GSK3beta and p-GSK3beta expression was immunohistochemically analyzed in 89 OSCC using a tissue microarray technology in duplicate. For this, paraffin blocks from each patient were gathered and arranged in a new tissue microarray block. GSK3beta and p-GSK3beta expression were semi-quantitative analyzed and compared to some clinicopathological parameters.

Results: 66% of cases showed low/moderate GSK3beta expression, and 34% strong immunoreactivity. 36% and 60% of cases exhibited low/moderate p-GSK3β expression, with only 1.4% revealing strong expression, and 36% of them negative. This difference was statistically significant (p<0.0001). There was no association between clinicopathological factors and the expression of both proteins.

Conclusions: Although the expression of GSK3beta (active form) predominated in OSCC in detriment of the p-GSK3β (inactive form), both proteins were not associated with any clinicopathological factors. (FAPEMIG)

Keywords: oral cancer, gsk3beta, immunohistochemistry, prognostic factors, tissue microarray

CIMENTOBLASTOMA – A CASE REPORT

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Objective: To evaluate and compare the immunoexpression of tryptase in periapical granulomas (PGs) and radicular cysts (RCs) correlating it with the type of lesion, localization, intensity of the inflammatory infiltrate and thickness of the cystic epithelial lining.

Study Design: Twenty-five PGs and 25 RCs were submitted to morphological and immunohistochemical analysis using anti-tryptase antibody.

Results: The PGs exhibited higher immunoreactivity of tryptase-positive mast cells in central/superficial and deep regions. Considering the total number of mast cells and disregarding the location, the tryptase-positive mast cells increased gradually from RCs to PGs. Lesions with inflammatory infiltrate grade III showed greater number of tryptase-positive mast cells in central/superficial and deep regions than lesions with inflammatory infiltrate grade II, whereas disregarding the location, the lesions with inflammatory infiltrate grade III exhibited higher immunostaining of tryptase-positive mast cells.

Conclusions: The tryptase-positive mast cells are present in chronic periapical lesions principally in PGs, in both central/superficial and deep regions.

Keywords: Immunohistochemistry, mast cells, periapical diseases, tryptase.

IMMUNOHISTOCHEMISTRY EXPRESSION OF TSPO IN PERIAPICAL GRANULOMAS AND CYSTS

Hébel Cavalcanti Galvão, Lélia Batista De Souza, Roseana De Almeida Freitas, Manuel Antonio, Gordão Núñez, Leda Pereira Pinto, Ana Luíza Dias Leite De Andrade, Hugo Costa Neto, Federal University of Rio Grande do Norte, Natal, Brazil

Objective: To evaluate and compare the immunoeexpression of tryptase in periapical granulomas (PGs) and radicular cysts (RCs) correlating it with the type of lesion, localization, intensity of the inflammatory infiltrate and thickness of the cystic epithelial lining.

Study Design: Twenty-five PGs and 25 RCs were submitted to morphological and immunohistochemical analysis using anti-tryptase antibody.

Results: The PGs exhibited higher immunoreactivity of tryptase-positive mast cells in central/superficial and deep regions. Considering the total number of mast cells and disregarding the location, the tryptase-positive mast cells increased gradually from RCs to PGs. Lesions with inflammatory infiltrate grade III showed greater number of tryptase-positive mast cells in central/superficial and deep regions than lesions with inflammatory infiltrate grade II, whereas disregarding the location, the lesions with inflammatory infiltrate grade III exhibited higher immunostaining of tryptase-positive mast cells.

Conclusions: The tryptase-positive mast cells are present in chronic periapical lesions principally in PGs, in both central/superficial and deep regions.

Keywords: Immunohistochemistry, mast cells, periapical diseases, tryptase.
Female patient, 28 years, was consulted at Centro de Especialidades Odontológicas de Guaianases, São Paulo, complaining of a swelling in the posterior right region of the mandible with 8 years of evolution, and a history of recurrent swelling and pain. A extraction of tooth 48 was performed six years ago, without any improvement in clinical history. The intra-oral clinical examination revealed swelling of hard consistency in tooth 47 region on the buccal and lingual regions. Upon examination of the panoramic radiograph was observed a radiopaque lesion of the distal root of 46 teeth until the region of tooth 48. We also observed resorption area of the distal root of tooth 46 without visible limit between the radiopaque lesion and roots of 47 teeth. A incisional biopsy was performed with diagnosis of cementoblastoma and benign fibro-osseous lesion, a histological analysis confirm cementoblastoma as final diagnosis.

Keywords: cementoblastoma, odontogenic tumor

SYNCHRONOUS FIBRO-OSSEOUS LESIONS IN DIFFERENT QUADRANTS Dârcio Kitakawa1, Luis Felipe Das Chagas E. Silva De Carvalho2, 1Centro de Especialidades Odontológicas/CK Estomatologia, São Paulo, Brasil; 2FOCAS Research Institute, Dublin Institute of Technology (DIT), Dublin – Irlanda/CK Estomatologia

Female patient, 45 years, was consulted at Centro de Especialidades Odontológicas de Guaianases, São Paulo, complaining of a swelling in right maxillary region, with a slowly evolution in the past 20 years. No pain symptoms were reported. On extra oral examination we noted the expansion, which was confirmed by the intraoral examination with buccal and palatal expansion of the bone. Indeed we requested an imaging examination. In the panoramic radiograph was observed beyond the right maxillary lesion, a radiopaque lesion in the anterior mandibular and left posterior mandibular region. Among these features we concluded the diagnosis in maxillary with fibrous dysplasia lesion and cemento-osseous dysplasia of the mandible. Patient is under clinical and radiographic follow-up without any clinical changes.

Keywords: fibro-osseous lesions, fibrous dysplasia, cemento-osseous dysplasia

A PILOT STUDY TO COMPARE THE EFFICACY OF TWO METHODS OF NECK DISSECTION; DISSECTION OF NODES MANUALLY VS. SERIAL SLICING AND EMBEDDING THE NECK IN ITS ENTIRETY Krishna Suchak, Kim Piper, The Royal London Hospital, Barts Health, London, England

Objective: We undertook a pilot study to compare the manual method of dissecting out lymph nodes with the largely American approach of serially slicing and embedding the neck in toto.

Study Design: All the OMFS neck dissection specimens for OSCC received in our department between 1/11/2012 - 1/2/2013 were included in the study. Each neck was dissected manually with subsequent embedding of residual tissue at each level.

Results: 10 neck dissection specimens were evaluated. An average of 14 extra blocks were taken per case to embed the residual tissue. There was an average 48% increase in nodal yield, although extra nodes were small, <3mm.

Conclusions: Although embedding the neck in its entirety does increase the total nodal yield by an average of 48%, no clinically significant information was generated from the extra blocks taken and the TNM staging remained unchanged. A cost benefit analysis concluded this method was not best practice at our institution.

Keywords: Neck dissection, cancer treatment, cost benefit

ACTINOMYCOSIS OSTEOMYELITIS CASES AT MANDIBLE LOCATION Özlem Saraydaroğlu1, Ulviye Yalçınkaya, Nesrin Uğraş, Uludağ Üniversitesi Tıp Fakültesi Patoloji Anabilim Dalı

Objective: Actinomycosis is a slowly progressing infection caused by Actinomyces species, which are gram-positive anaerobic bacillus. Actinomyces osteomyelitits is a rare condition in head and neck, often occurs after tooth extraction and trauma or surgery in jaw.

Study Design: We retrospectively reviewed the medical records of histopathologically confirmed 12 cases of actinomyces osteomyelitis in mandible seen between 2005 and 2014.

Results: The group of patients consisted of 8 males and 4 females with the mean age of 59 year. Two cases had a past medical history for tooth extraction, one of the patient had history for operation and two cases had history for trauma. Malignant disease was present in 6 patients in various locations. One of the patient had a past history for hypertension, diabetes mellitus. In all cases clinically suspicion of malignancy was present.

Conclusions: Actinomyces osteomyelitis remains an important diagnostic consideration in mandible, when mimicking neoplastic lesion by clinic and radiological findings.

Keywords: actinomycosis, mandible, osteomyelitis

A PAINFUL ORAL MUCOSA MASS: AN ABSCESS FORMATION OR A RARE ORAL MUCOSA METASTASIS FROM COLORECTAL ADENOCARCINOMA Nesrin Uğraş, Özlem Saraydaroğlu, Uludağ Üniversitesi Tıp Fakültesi Patoloji Anabilim Dalı

The oral mucosa is an uncommon site for metastatic tumors. Colorectal cancer most commonly metastasizes to the liver and lung and metastatic colon carcinoma to the oral mucosa is extremely rare. We describe an unusual presentation of oral mucosa metastasis from primary colorectal adenocarcinoma. A 58-year-old man presented with pain at the left side of face causing disability to oral intake. Patient had a past medical history significant for colorectal adenocarcinoma, initially diagnosed at stage IV. On physical examination there was palpable mass on left oral mucosa and for definitive diagnosis biopsy was performed on oral mucosa mass. By histopathological and immunohistochemical results, diagnosed as metastasis from his primary colorectal adenocarcinoma. Metastatic carcinoma to the oral cavity account for less than 1.5% of malignant oral neoplasms. The clinical presentation of a metastatic lesion in the oral mucosa can be mimicking benign process, such as abscess formation, infection.

Keywords: colorectal carcinoma, metastasis, oral mucosa

ACLINICOPATHOLOGIC ANALYSIS OF 12 CASES OF FIBRO-OSSEOUS LESIONS OF THE MAXILLA AND MANDIBLE Özlem Saraydaroğlu1, Ulviye Yalçınkaya, Nesrin Uğraş, Uludağ University Medical Faculty Department of Pathology, Bursa, Turkey
Objective: Fibro-osseous lesions include a variety of lesions of developmental dysplastic and neoplastic origins with differing clinical and radiographic presentation and behavior. For lesions craniofacial located, predilection sites are maxilla and mandible.

Study Design: We retrospectively reviewed the medical records of histopathologically confirmed 22 cases of fibro-osseous lesion in craniofacial region between 2002 and 2014 which 13 cases of these patients location was the maxilla and mandible were included to this study.

Results: The group of patients consisted of 7 males and 6 females with the mean age of 30 years. The lesions most frequently involved the maxilla (n=7), followed by the mandible (n=6). In all, ossifying fibromas constituted 69.2% (n=9) of all lesions and fibrous dysplasia constituted 15.4% (n=2). Radiological findings are not specific for the diagnosis of two patients provided.

Conclusions: If not totally excised, recurrence is common in these locally destructive and deforming lesions.

Keywords: fibro-osseous lesions, mandible, maxilla