reddish, multilobulated and ulcerated nodule in posterior maxilla with 1 month of evolution. Computerized tomography showed an expansive tumor destroying the alveolar bone around the molars and invading the maxillary sinus. The material of the first incisional biopsy was not enough to conclude the diagnosis. Before a second biopsy was done, the patient delivered normally a healthy boy. Histologically, the tumor was composed by round cells with prominent cytoplasm and pleomorphic nuclei, sometimes multinucleated. Areas with spindle and epithelioid cells were also found, among osteoid or chondroid matrix. The lesion was extremely vascularized, with mixomatous and telangiectatic regions. The final diagnosis was conventional osteosarcoma, and the lesion was surgically removed, with clear margins. A microsurgical flap was used for reconstruction and the patient received adjuvant radiation and chemotherapy. She has been followed up for one year, with no signs of metastasis or recurrence. The influence of pregnancy on the initiation, promotion and development of sarcomas is not well established. To the best of our knowledge, no more than 10 cases of jaw osteosarcoma in pregnant women have been reported up to now. The co-existence of malignancy and pregnancy is very uncommon, and sometimes a challenge for medical professionals, especially regarding the diagnosis, the use of ancillary examinations and the treatment.

SEROTONIN AND SEROTONIN DERIVATIVES: NEW APPLICATION FOR VARIOUS SKIN DISORDERS.

PROF. BYUNGGOOK KIM, DR. HYE-EUN KIM, MS. HYEJOUNG CHO, PROF. OKJOON KIM. CHONNAM NATIONAL UNIVERSITY

Objectives: In the human body, serotonin is well known as a neurotransmitter that regulates mood, appetite and sleep. However, more than 90% of the serotonin in a human body is generated in gastrointestinal, stored in platelets, circulating whole body exept brain, and contributes to various physiological function. Plants also produce serotonin, and this phyto-serotonin is known to be involved in plant growth, flowering, mature and senescence. The most difference between phyto-serotonin and human serotonin is phyto-serotonin turns to various serotonin derivatives to store in flowers and fruits during mature and senescence. Serotonin derivatives were dramatically increased against pathogen attack. There are 4 types of major serotonin derivates. Among these 4 compounds, Caffeoylserotonin (CaS), Feruloylserotonin (FS) and Coumaroylserotonin (CS) are major components which mainly found from some plant extracts. Almost all human diseases are accompanie/d by ROS generation, so we investigated the antioxidant ability of serotonin derivates to make sure that they have a potential as therapeutic reagent.

Findings: As a result, serotonin and serotonin derivates were found to have up to 16 fold higher antioxidant levels than Trolox which is the standard material of the antioxidant assay. In addition, CaS and 5-HT have been shown to inhibit protein damage and DNA damage either. Serotonin derivatives promote cell proliferation and migration and inhibit melanogensis and cell apoptosis. Interestingly, 5-HT regulated cell proliferation and cell migration only through ERK/AP-1/MMP9 pathway while additional Akt/NF-κB/MMP9 pathway was involved in effects of CaS.

Conclusions: These results suggest that CaS can enhance keratinocyte proliferation and migration. Overall, serotonin derivatives might have potential as reagents beneficial for wound closing, cell regeneration and anti-melanogenesis.

TERMINAL AMINE ISOTOPIC LABELING OF SUBSTRATES (TAILS) ANALYSIS REVEALS NOVEL POTENTIAL SUBSTRATES OF TUMOR SUPPRESSIVE MATRIX METALLOPROTEINASE-8 IN ORAL TONGUE CARCINOMA.

MS. KRISTA JUURIKKA[A], DR. PIRJO ÅSTRÖM[A], DR. ANTOINE DUFOUR[B], DR. MEERI SUTINEN[A], PROF. CHRISTOPHER OVERALL[B], PROF. TUULA SALO[A]. [A] MEDICAL RESEARCH CENTER (MRC) OULU, OULU UNIVERSITY HOSPITAL AND UNIVERSITY OF OULU, OULU, [B] UNIVERSITY OF BRITISH COLUMBIA, VANCOUVER

Objectives: Oral tongue squamous cell carcinoma (OTSCC)is an aggressive cancer with poor survival and increasing incidence. Matrix metalloproteinase-8 (MMP-8), unlike most MMPs, provides protective effects in various human cancers including OTSCC. Yet, the mechanism behind these effects remain unclear. Knowledge of the molecular basis of disease progression is crucial for developing novel treatments. Thus our study aimed to identify novel candidate substrates of MMP-8 to examine the mechanisms behind its tumor-suppressive actions in OTSCC.

Findings: We have previously generated stably MMP-8 overexpressing oral squamous cell carcinoma cell line (HSC-3 MMP-8+ cells) and showed that overexpression of MMP-8 significantly decreased the cell migration and invasion. However, the molecular mechanisms hampering the motility of these cells remained unrevealed. The current study aimed to unravel these mechanisms by subjecting the secretomes of MMP-8+ and control HSC-3 cells to Terminal Amine Isotopic Labeling of Substrates (TAILS) analysis to find novel candidate substrates for MMP-8. The analysis revealed cleaved proteins, including dysadherin, 60S ribosomal protein L13, kallikrein-5, lipolysis-stimulated lipoprotein receptor, matrix-remodeling-associated protein 7, POTE ankyrin domain family member E, stathmin 1 and tubulin alpha-1C chain, which were enriched in MMP-8+ secretomes. Dysadherin is known to promote metastasis of various cancers and decrease cell adhesion. MMP-8+ cells showed decreased levels of dysadherin, suggesting a cleavage by MMP-8 from the cell membrane. Moreover, the adhesion of MMP-8+ cells was enhanced which might affect the migration.

Conclusions: Several novel candidate substrates of MMP-8 were revealed by TAILS analysis. The potential substrates, including dysadherin, may play crucial role in the changed behavior of MMP-8+ cells and needs to be further explored for their potential role in OTSCC. The cleavage of tumor-promoting dysadherin from the cell membrane might be one of the mechanisms by which MMP-8 increases tumor cell adhesion and thereby suppresses migration.

MEDIAN MAXILLARY ANTERIOR ALVEOLAR CLEFT ASSOCIATED WITH MEDIAN ALVEOLAR CYST: RADIOGRAPHIC AND PATHOLOGICAL CORRELATION..

DR. RANA ALSHAGROUD[A], DR. RANA ALTURKY[A], DR. MOHAMMED BADWELAN[A], DR. MOHAMMED ALKINDI[A], DR. JOSE LUIS TAPIA[B], DR. ALFREDO AGUIRRE[C]. [A] KING SAUD UNIVERSITY, [B] UNIVERSITY AT BUFFALO, THE STATE UNIVERSITY OF NEW YORK, [C] BD

Introduction: Median maxillary anterior alveolar cleft (MAAC) is a defect presenting in 1 % of the population. MAAC was first reported by Gier and Fast in 1967. A study of 66 human

fetuses done by Stout and Collet in 1969 found evidence of two cystic lesions associated with MAAC. These cysts were named median alveolar cyst (MAC). To the best of our knowledge, we are reporting for the first time a bona fide example of MAAC - MAC in a human being.

Case report: A healthy 14-year-old Saudi female with an anterior maxillary diastema was referred to the orthodontics clinic for consultation. Clinical examination revealed a double frenum connecting the maxillary lip and alveolar vestibule. A panoramic film and a cone beam CT revealed a radiolucency between the maxillary central incisors extending from the alveolar crest to the incisive foramen area. The labial cortical plate was missing while the palatal was intact. The radiologist interpretation was "enlarged nasopalatine canal". No other physical or dental abnormalities were evident. Upon surgical exploration, no labial maxillary osseous plate was found however, soft tissue was present and excised. Microscopic examination of the excised tissue revealed a cystic process lined by acanthotic nonkeratinizing stratified squamous epithelium with intracellular edema. In addition, sebaceous glands, islands of squamous epithelium with keratin pearl formation and lymphoid infiltrates were seen within the cystic wall. A retrospective review of the imaging studies coupled to the microscopic findings resulted in diagnosis of median alveolar cyst associated with a median maxillary anterior cleft.

Conclusion: We report a rare case of MAAC with MAC showing a sebaceous component. It is thought that MAC most likely originates from epithelial invaginations derived from the anterior intermaxillary suture. However, the mechanism involved in the formation of these two conditions remains to be elucidated.

IDENTIFICATION OF NOVEL COPY NUMBER ALTERATIONS IN AMELOBLASTOMA AND AMELOBLASTIC CARCINOMA FROM NIGERIA.

MR. SVEN NIKLANDER[A], DR. AKINYELE ADISA[B], DR. PAUL HEATH[A], PROF. KEITH HUNTER[A]. [A] UNIVERSITY OF SHEFFIELD, [B] UNIVERSITY OF IBADAN

Background and Objectives: Ameloblastoma is a benign odontogenic neoplasm, characterized by local invasiveness, facial deformity, tooth displacement, a high rate of recurrence, and malignant transformation. It accounts for 63% of odontogenic tumour in Nigeria. Recently, studies in the genomic landscape of ameloblastoma have identified a number of consistent alterations that may be useful for therapeutic intervention. To date, no whole genome survey of ameloblastoma and ameloblastic carcinoma has been published.

Methods: DNA was extracted from RNALater stored tissue using the DNeasy Tissue Kit (QIAGEN), from a cohort of ten ameloblastoma and three ameloblastic carcinoma from UCH, Ibadan, Nigeria. Whole genome analysis was performed using the Oncoscan FFPE Assay Kit (Affymetrix). Data was analysed using Nexus Express for Oncoscan 17.0 and Somatic Mutation Viewer 1.0.1.

Findings: Ameloblastoma (n=10) showed a mean genome change of 9.7%, with a mean of 88.7 copy number (CN) aberrations and 7.5% of loss of heterozygosity (LOH), whereas the ameloblastic carcinomas (n=3) had a mean genome change of 6.8% with a mean of 87.3 copy number (CN) aberrations and 3.6% of loss of heterozygosity (LOH). All tumours (benign and malignant) showed CN gain at 8q23.3, affecting the CSMD3 gene. Other commonly affected regions included LOH at 1p34.2-p34.1 and 2q11.2, among others. Ameloblastoma and ameloblastic carcinomas shared somatic mutations in BRAFV600E, EGFR, KRAS and PTEN genes. One ameloblastoma showed a mutation in TP53 and two (66.7%) ameloblastic carcinomas showed a mutation in the PIK3CA gene, which was not observed in the ameloblastoma cohort.

Conclusions: Ameloblastoma and ameloblastic carcinoma do not show extensive genome changes indicative of genomic instability. We have identified novel areas of CN gain and LOH that require further investigation. The mutational profile of these lesions is similar to that reported in the literature. Funding: Pathological Society of Great Britain.

THE IMPORTANCE OF IMMUNOHISTOCHEMISTRY AND MOLECULAR STUDIES FOR DIAGNOSING EWING'S SARCOMA OF THE MANDIBLE: A CASE REPORT..

DR. FAISAL ALHEDYAN[A], DR. FALEH ALSHAHRANI[B], DR. IBRAHIM O BELLO[C], DR. RANA ALSHAGROUD[C]. [A] COLLEGE OF DENTISTRY, PRINCE SATTAM BIN ABDULAZIZ UNIVERSITY, ALKHARJ, [B] DEPARTMENT OF ORAL AND MAXILLOFACIAL SURGERY, KING FAHAD MEDICAL CITY, RIYADH, SAUDI ARABIA, [C] COLLEGE OF DENTISTRY, KING SAUD UNIVERSITY, RIYADH

Introduction: Ewing's sarcoma (ES) is a malignant small round cell neoplasm primarily affects the bone. It was first described by James Ewing in 1921. ES accounts for 6-10% of all primary malignant bone tumors. It is most commonly found in children between 10-15 years of age. 1% to 2% of cases of ES affect the craniofacial bones. Only a few cases have been reported in the mandible. Here we report a case of EW in the mandible and the use of immuno-histochemistry and molecular studies to confirm its diagnosis.

Clinical presentation: A 16 year old female patient was seen at the Department of Oral and Maxillofacial Surgery in King Fahad Medical City. Extra-oral examination revealed diffuse painless swelling on left side of the mandible with reduced mouth opening. Intraorally, an ulcerated large mass was present. CBCT revealed ill-defined radiolucency involving the posterior part of the mandible extending to the ramus. MRI showed a destructive mass in the left mandible with a soft tissue component occupying the left masticator space. PET/CT showed a FDG avid left cervical large mass. An incisional biopsy was taken. Microscopically, the specimen revealed the presence of islands and sheets of monotonous malignant cells infiltrating the bone. The nuclei of the malignant cells were round to oval in shape with fine dispersed chromatin and one or two indistinct nucleoli. The neoplastic cells were positive for CD99 and Fli1 and negative for SATB2. Chromosomal translocation t (11:22) involving the EWS and FLI-1 gene was identified using FISH. Patient was treated with chemotherapy.

Conclusion: We reported a case of a malignant tumor with an immunoprofile of Ewing Sarcoma that was confirmed with the identification of chromosomal translocation by molecular study.

CONDYLAR HYPERPLASIA: RADIOLOGICAL, HISTOLOGICAL AND IMMUNOHISTOCHEMICAL COMPARATIVE ANALYSIS.

PROF. FABIO PIRES[A], MS. NATÁLIA CARNEIRO[A], PROF. TERESA CRISTINA SANTOS[A], PROF. LUCIANA ARMADA[B]. [A] STATE UNIVERSITY OF RIO DE JANEIRO, [B] ESTÁCIO DE SÁ UNIVERSITY