

This study presents a case of a 29-years old male patient with immunosuppression-associated Kaposi's Sarcoma (KS) caused by the medicines for the leprosy treatment. The patient was presented to the stomatology service of the Hospital Metropolitano Odilon Behrens, Brazil, with a tumoral growth in the rights side of the lip commissure, with no history of local trauma. He was previously diagnosed with borderline leprosy, cataract and glaucoma and was under regular use of 100mg prednisone for 1 year and 6 months for treatment of leprosy complication. At the clinical examination it was possible to observe an erythematous tumoral growth in the lip commissure, right side, with necrosis on the surface measuring approximately 12mm. In view of the diagnostic hypothesis of non-neoplastic proliferative lesion and neoplasia of mesenchymal origin, an incisional biopsy of the lesion was performed. Microscopic findings and immunohistochemical examination of the lesion led to a final diagnosis of KS. The patient was submitted to the rapid serology test for human immunodeficiency virus (HIV), which proved to be negative, a result confirmed by the fourth-generation test. The patient was referred for surgical evaluation of the lesions and for reevaluation of the systemic steroid dosage. Faced with the infeasibility of reducing corticoid dosage, the patient underwent surgical excision of the lesions and was free of recurrence of the disease for 2 years. So, this case shows the importance of including KS in the differential diagnosis of oral cavity lesions in patients who use chronic immunosuppressant drugs.

#### SYMMETRICAL PALATAL FIBROMATOSIS

(SPF) – 5 NEW CASES AND A LOGICAL

DIAGNOSTIC NAME FOR A RARE LESION

WITH A DOZEN DIFFERENT NAMES. DR. RICHARD J. VARGO<sup>A</sup>, DR. JERRY BOUQUOT<sup>B</sup>, MR. KENAN H. HOSSINO<sup>C</sup>. <sup>A</sup> UNIVERSITY OF PITTSBURGH, <sup>B</sup> UNIVERSITY OF TEXAS HEALTH SCIENCE CENTER AT HOUSTON, <sup>C</sup> WEST VIRGINIA UNIVERSITY

**Objective:** To present 5 new cases of a lesion reported fewer than 20 times in the literature, under a dozen different names, and to recommend the most appropriate name.

**Methods:** 5 new SPF cases are clinically and microscopically characterized, with a literature review.

**Findings:** 5 cases (3F & 2M) presented in patients 20-39 years of age. All presented as bilateral, symmetrical, asymptomatic, sessile, moderately firm or soft (n=2) masses of the lateral posterior hard palate; 2 were isolated to the tuberosities. All masses were normal in color, with smooth, nonulcerated surfaces and occasional broad surface nodularity. One case had bilateral secondary, anterior extensions. Underlying bone was radiographically normal, and adjacent teeth were asymptomatic. All masses seemed to originate from tissues over the palatal bone, only secondarily extending to gingivae and/or crestal tuberosity bone, i.e. this does not appear to be a gingival entity, as previously thought. Cases had been present 2-15 years, with no familial or environmental etiologies identified. Histopathologically, masses were comprised of dense, avascular fibrous connective tissue with scattered thick bands of collagen and occasional slight surface nodularity. Surface epithelium showed regions with long, pointed and/or thin rete processes, and subepithelial stroma contained scattered large, angular fibroblasts, sometimes with multiple nuclei, sometimes with a "smudged" appearance, consistent with those in giant cell fibroma; melanin

granules were not present. Conservative surgical excision affected cure in all cases.

**Conclusion:** The present investigators propose SPF as the most accurate name for this chronic, presumably rare and certainly unique entity. It fits the definition of fibromatosis more than reactive fibrous hyperplasia, and the presence of giant fibroblasts in the stroma is a unique, possibly required, histopathologic feature. Conservative surgical excision is the recommended treatment, with no recurrences reported to date.

#### SCREENING OF B-CATENIN INHIBITOR FROM MEDICINAL PLANT EXTRACTS FOR INTRACTABLE RECURRENT ORAL CANCER.

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**Objectives:** Recent progress in malignant tumors has revealed cancer stem cells (CSC) can be the key contributors in tumor ignition, progression, and chemoradiotherapy recurrence. CD133 is a prognostic marker of survival in squamous cell carcinoma (SCC) including OSCC. CD133 can physically associate as a ternary complex with HDAC6 and the central molecule of the canonical Wnt signaling pathway,  $\beta$ -catenin. This association stabilizes  $\beta$ -catenin and leads to activation of  $\beta$ -catenin signaling targets in colon and ovarian cancer cell lines. Therefore, given that CD133 marks progenitor cells and strongly related with  $\beta$ -catenin activation, targeting  $\beta$ -catenin may be a means to treat multiple cancer types in CD133+ CSC-like cells. In this study, we confirmed that b-catenin was also overexpressed in KBCD133+ cells which acquired CSC-like characteristics than KB cells. Therefore we hypothesized a natural extract capable of inhibiting the activity of  $\beta$ -catenin can effectively inhibit the cancer progression of OSCC which acquired CSC-like characteristics.

**Findings:** We measured  $\beta$ -catenin activity of 54 plant extracts to select new candidates with  $\beta$ -catenin inhibitory effect. We have found 5 candidates showed significant inhibited  $\beta$ -catenin activities and Raphanus sativus L. seed (RSLS) extracts effectively induces cell apoptosis in KB as well as KBCD133+ cells. We also investigated that RSLS has strong inhibit nuclear localization of  $\beta$ -catenin, EMT via Axin/GSK-3 $\beta$ / $\beta$ -catenin pathway.

**Conclusions:** We propose that RSLS can be used as a new alternative chemotherapeutic for the treatment of intractable recurrent oral cancer.

#### OSTEOSARCOMA OF THE JAWS DURING PREGNANCY: CASE REPORT AND REVIEW OF THE LITERATURE. DR. ANA LIA

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Osteosarcoma of jaw bones represents less than 1% of all head and neck malignancies. Malignancy in pregnant women is also an uncommon event, and occurs in a ratio of one case per 1000 deliveries. The aim of this study is to report a rare case of maxillary osteosarcoma in a pregnant woman, and to review the previous cases published in English literature. A 29-year old woman, in the 33rd week of gestation, presented with a 2.5 cm

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 micro-surgical 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.

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**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 except 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 derivatives. Among these 4 compounds, Caf-feoylserotonin (CaS), Feruloylserotonin (FS) and Coumaroyl-serotonin (CS) are major components which mainly found from some plant extracts. Almost all human diseases are accompanied by ROS generation, so we investigated the antioxidant ability of serotonin derivatives to make sure that they have a potential as therapeutic reagent.

**Findings:** As a result, serotonin and serotonin derivatives 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 melanogenesis and cell apoptosis. Interestingly, 5-HT regulated cell proliferation and cell migration only through ERK/AP-1/MMP9 pathway while additional Akt/NF- $\kappa$ B/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<sup>A</sup>, DR. PIIRJO ÅSTRÖM<sup>A</sup>, DR. ANTOINE DUFOUR<sup>B</sup>, DR. MEERI SUTINEN<sup>A</sup>, PROF. CHRISTOPHER OVERALL<sup>B</sup>, PROF. TUULA SALO<sup>A</sup>. <sup>A</sup> MEDICAL RESEARCH CENTER (MRC) OULU, OULU UNIVERSITY HOSPITAL AND UNIVERSITY OF OULU, OULU, <sup>B</sup> 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<sup>A</sup>, DR. RANA ALTURKY<sup>A</sup>, DR. MOHAMMED BADWELAN<sup>A</sup>, DR. MOHAMMED ALKINDI<sup>A</sup>, DR. JOSE LUIS TAPIA<sup>B</sup>, DR. ALFREDO AGUIRRE<sup>C</sup>. <sup>A</sup> KING SAUD UNIVERSITY, <sup>B</sup> UNIVERSITY AT BUFFALO, <sup>C</sup> THE STATE UNIVERSITY OF NEW YORK, <sup>C</sup> 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