involvement. On the other hand, the latter can course with lymphadenopathy, blood eosinophilia and nephrotic syndrome due to IgE deposition in the renal glomeruli.
Design: Case report.
Results: Clinical- An eighteen year-old asian female presented to the ophthalmology clinic of the McGill University Health Centre with a three-month history of fluctuating swelling and ptosis of the left upper eyelid. There was also mild discomfort associated whenever the swelling was more intense. A well-defined, soft lesion in the left upper lid could be palpated, just below the superior orbital rim. No decrease in visual acuity or alterations of extraocular movements were found. Intraocular pressure was slightly higher in the affected side. Computed tomography disclosed a distinct homogeneous orbital lesion in the left superior orbit, molding to the globe and other orbital structures. There was no bone erosion. The findings favored the diagnosis of a lymphoid lesion and a transpalpebral biopsy was indicated and performed. Pathology- Histopathological evaluation revealed the presence of structures resembling lymphoid follicles surrounded by loose connective tissue. At higher magnification, those structures were composed of numerous blood vessels lined by plump endothelial cells with oval nuclei protruding into the lumen. Surrounding the vessels, there was a chronic inflammatory infiltrate composed of lymphocytes, plasma cells and a large proportion of eosinophils. Immunohistochemistry with Factor VIII was done and highlighted the prominent vascular component of the lesion. The "epithelioid" or "histiocytoid" atypical cells all showed positive immunostaining. Whole body gallium scan failed to reveal lymph node involvement elsewhere. Blood counts and urinalysis were also normal. Based on clinical and histopathological findings, the diagnosis of ALHE was made.
Conclusion: Although exams like blood count, urinalysis and whole body scans can assist in the differential diagnosis, ALHE can be diagnosed and differentiated from KD on histopathological grounds. The presence of vascular hyperplasia with plump endothelial cells protruding into the lumen is the most important feature in establishing the diagnosis of ALHE. Such differentiation is crucial for the patient because ALHE is not associated with any of the systemic manifestations present in KD.

690 LIPOMATOUS HAMARTOMA OF THE ORBIT. CASE REPORT AND LITERATURE REVIEW

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Background: Proliferation of mature adipose tissue rarely occurs in the orbit. Lipomatous hamartoma (LH) is a rare benign condition that is reported in several sites. We acknowledge only one previous case of LH reported in the orbit.
Design: We report the second case of orbital LH.
Results: A 45 year-old man presented with proptosis to the ophthalmologist complaining about decreasing visual acuity for several months. A CT scan showed a non-encapsulated orbital mass located in the posterior pole near the optic nerve. The mass was totally resected. Histopathology showed a non-encapsulated irregular tumor composed mainly of mature adipose tissue with regularly sized adipocytes. Fibrous connective tissue forming fibrous septa, and abnormal sized blood vessels were commonly seen throughout the lesion, associated with "follicle-like" aggregates of lymphocytes. Abnormal thick nerve bundles were also present. The diagnosis of LH of the orbit was made. The patient was free of recurrence within 6 months of follow-up.
Conclusion: LH is a benign tumor with high recurrence rate, which can be distinguished clinically & histopathologically from dermolipomas, herniated fat, lipomas and liposarcomas. We have described the second case of LH of the orbit.

691 EYELID TUMORS: CLINICOPATHOLOGICAL CORRELATION OF 1334 CASES

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Background: To study epidemiological, clinical and pathological aspects in a series of eyelid tumors, and to compare benign and malignant tumors for those variables. To determine the clinical diagnostic sensitivity and specificity, and the pathological base of ocular cutaneous horns.
Design: 1334 eyelid tumors were processed and paraffin embedded, and light microscopic study was made. Epidemiological and clinical aspects (sex, age, localization and size of the lesions, clinical diagnosis) were also collected. Statistical analysis was made, by comparison of percentages and Chi square test.
Results: Benign tumors were 68% of the total, 57% being of epithelial origin. The most frequent benign tumor was the seborrheic keratosis and the most frequent malignant one was the basal cell carcinoma (the most frequent tumor in total). Benign tumors were mostly located in the upper eyelid, while malignant tumors predominated in lower eyelid and internal canthus. Size was larger in malignant tumors. There is a statistical correlation between older ages and the development of malignant tumors (and of course between childhood and benign tumors). The pathological bases of cutaneous horns were verruca vulgaris, actinic keratosis and seborrheic keratosis. None of the cutaneous horns had a malignant base. Accuracy in the diagnosis showed a sensitivity of 83% and a specificity of 88%.
Conclusion: Frequency of eyelid tumors received in our pathology laboratories has increased during the last ten years. There is a predominance of benign tumors and most of them are epithelial, followed in order by the adnexal and melanocytic ones. Sensitivity and specificity for clinical diagnosis is acceptable.

Oral

692 DETECTION OF EPSTEIN-BARR VIRUS (EBV) BY IN SITU HIBRIDIZATION IN LESIONS LIKE ORAL HAIRY LEUKOPLAKIA

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Background: Epstein-Barr virus (EBV) is a human herpesvirus that estabilishes persistent infection and is associated with many diseases, including infectious mononucleosis syndrome,lymphomas, nasopharyngeal carcinoma, and oral hairy leukoplakia, affecting principally immuno- compromised patients. Oral hairy leukoplakia is a non malignant, EBV-associated, epithelial disease that typically occurs on the lateral tongue borders. It is common in individuals with HIV infection and in patients receiving iatrogenic immunossupression. Histologically, hairy leukoplakia is characterized by shaggy hyperparakeratosis, acanthosis, "koilocyte"-like or balloon cells, and a paucity of inflamation. The histologically features of hairy leukoplakia are not pathognomonic, and for the many authors definitive diagnosis requires demonstration of EBV.
Design: The aims of this study were to verify the presence of EBV, by in situ hibridization in lesions diagnosed histologically suggestive of hairy leukoplakia and compare this results with histologically features.
Results: Thirty six biopsy specimens from lesions histologically suggestive of hairy leukoplakia were selected from the Department of Stomatology's Oral Pathology Service archives. EBV in situ hibridization was performed on all 36 cases, and 27 cases (75%) were positive, confirming the diagnose of oral hairy leukoplakia. Histopathologic features did not agree well with EBV in situ hibridization.
Conclusions: We concluded that H&E histopathology should not be used as a substitute for in situ hibridization in the definitive diagnosis of hairy leukoplakia.

693 USP6 ONCOGENE IS EXPRESSED IN ANEURYSMAL BONE CYSTS OF THE JAWS BUT NOT CENTRAL GIANT CELL GRANUMOMAS

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Background: Several chromosomal translocations which upregulate the USP6 oncogene have been recently identified in primary aneurysmal bone cysts (ABC). The vast majority of these cases were from extragnathic bones. Primary ABC of the jaws is a rare lesion that shares histopathologic features with central giant cell granuloma (CGCG), although clinical manifestations may be distinctively different. The aim of this study was to determine if USP6 protein is overexpressed in ABCs and CGCG of the jaws.
Design: Twelve cases of CGCG, five cases of ABC and seven cases of peripheral giant cell granuloma, all of the jaws were retrieved from the UCSF Oral Pathology files. In addition, four cases of ABC of extragnathic bones were retrieved from the files of the UCSF Department of Pathology. After review and verification of the diagnoses, paraffin embedded tissue sections were immunostained using an antibody for USP6 (ABCAM; 1:50). RNA extracted from paraffin embedded tissues was reverse transcribed to cDNA and a nested PCR method analysis was used to identify the chromosomal translocation CDH11-USP6.
Results: Four of five ABCs of the jaws and three of four ABCs of the extragnathic bones showed cytoplasmic expression of USP6 protein but none of the twelve cases of the CGCGs were positive. Using PCR analysis we found that one ABC showed the CDH11-USP6 chromosomal translocation that upregulates USP6 protein expression.
Conclusion: We show that a majority of aneurysmal bones cysts of both the jaws and extragnathic bones overexpress USP6 protein. Overexpression was not seen in any of the CGCGs and immunostaining for this oncogene may be helpful in differentiating this from ABC. We were also able to identify a specific chromosomal translocation in ABC involving USP6 and CDH11 that leads to protein overexpression. This study supports the notion that ABC is a neoplasm associated with upregulation of the USP6 oncogene while CGCG is not and that these two lesions are distinct biologic entities.

694 NICOTINE-INDUCED CHEMORESISTANCE IN HEAD AND NECK SQUAMOUS CELL CARCINOMA AND STRATEGY FOR OVERCOMING RESISTANCE - ON THE BASIS OF KB CELL LINE AND BETULINIC ACID

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Background: Nicotine is an important component in cigarette smoke that can activate growth-promoting pathways to facilitate the oncogenesis of various organs. Moreover, growing evidence suggests that cigarette smoke can affect the responsiveness of cancer cells to treatment, especially those of head and neck cancer. The present study describes the effects of nicotine on the cell death pathway, resulting in a decreased cytotoxicity of anticancer drugs such as cisplatin and etoposide. And also it describes the effect of betulinic acid as a chemosensitizer.
Design: The author assessed the apoptotic pathway after treatment with nicotine (200 nM/L), and compared the effect of anticancer drugs such as cisplatin (IC50=48 ÿg/ml) and etoposide (IC50=13 ÿg/ml) in the presence or absence of nicotine in oral squamous cell carcinoma (SCC) KB cell line. Also evaluated was the combination chemotherapeutic effect of betulinic acid with well-known chemotherapeutics (cisplatin: IC30=23 ÿg/ml, etoposide: IC30=8.3 ÿg/ml) in the presence or absence of nicotine.
Results: Nicotine induces poor phosphorylation in association with suppression of apoptosis in KB cells (inhibition rate: -20±1%). The inhibition rates of KB cells co-treated with anticancer drugs and nicotine were significantly decreased (cisplatin: 31±2%, etoposide: 24±1%) comparing to anticancer drug only treated group (cisplatin: 41±1%, etoposide: 35±1%) ($P<0.01$). However, chemoresistance caused by nicotine was subjugated by combination of betulinic acid (16 ÿg/ml) and chemotherapeutics (cisplatin: 56±2%, etoposide: 62±2%) ($P<0.001$).

Conclusion: It appears that nicotine may effect chemoresistance and carcinogenesis via anti-apoptotic pathway in SCC. Moreover, betulinic acid may be a useful chemosensitizer to treat SCC or to overcome nicotine-induced chemoresistance in SCC. These findings may have clinical implications for chemotherapy effectiveness in SCC patients who continue to smoke.

695 LYMPHANGIOMATOUS POLYPS OF THE TONSIL & PHARYNX. REPORT OF 3 CASES

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Background: Benign tumors or tumor-like lesions of the tonsil and pharynx are less common than malignancies and the rarity can be reflected by the relative low number of cases reported in the literature. Lymphangiomatous polyps (LP) are uncommon benign tumors of the tonsils and pharynx with few cases described in the literature. Due to the unusual clinical and pathologic features of these polyps, pathologists and clinicians alike may find it difficult to classify them correctly.

Design: To report 3 cases of LP of the tonsil and pharynx.

Results: Case 1. A 54 year-old woman presented a 3 months history of dysphagia, difficult to breath and 3 episodes of syncope. A laryngoscopy was performed and a 6.5 cm polypoid mass in the posterior oropharynx was seen. The tumor was resected. No tumor progression or recurrence was observed within 6 months of follow-up. Case 2 and 3. Two women aged 22 and 50 year-old presented with a single mass in the right tonsil, measuring 3.0 cm and 1.0 cm, respectively. The patients experienced dysphagia, sore throat, and the feeling of a mass in the throat. Amigdalectomy was performed in both cases. Microscopic examination of all cases showed that the polyps were covered by squamous epithelium. In two cases there were mature lymphocytes within the epithelium. There was proliferation of submucosal dilated lymphatic vascular channels usually containing proteinaceous fluid, and various amounts of fibrous connective tissue. A stromal adipose tissue component was present in varying proportion in all cases. One of the tonsil's mass presented a great amount of stromal adipose tissue as well as fragments of cartilage. Diagnosis of LP was made in the 3 cases. Conclusion. We presented the histopathological features of 3 cases of LP of the tonsil and pharynx. This is an unusual benign tumor that has been described under different names, and can be clinically mistaken for malignant neoplasm.

696 HETEROTOPIC OSSIFICATION IN THE ANTERIOR MAXILLA: A CASE REPORT AND REVIEW OF THE LITERATURE

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Background: Heterotopic ossification represents an osteochondromatous proliferation in muscle or other soft tissue. In early stage, it may be mistaken for chondrosarcoma and osteosarcoma.

Design: A case of heterotopic ossification in the anterior maxilla is presented, and clinicopathologic similarities with other osteochondromatous lesions are discussed.

Results: A 13-year-old boy had complained of an asymptomatic swelling in the anterior maxilla for approximately 4 years. The patient reported no local trauma. The intraoral examination revealed an exophytic lesion in the incisive papilla between the maxillary central and lateral incisor teeth. The radiographies detected no significant findings. Histopathologically, the lesion showed a dense fibrous tissue above the overlying mucosa. Bone ossification lay beneath a partially hypertrophic cartilage showing occasionally pleomorphic chondrocytes.

Conclusion: Clinical aspects and radiographic findings are essential for differential diagnosis. Microscopically, the arrangement and organization of chondrocytes, and the pattern of bone ossification are important features to be considered for heterotopic ossification.

697 ASPERGILLOSIS OF THE MAXILLARY SINUS IN THE CLINICAL COURSE CHRONIC SINUSITIS: A CASE REPORT

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Background: Aspergillosis of the maxillary sinus is a relatively rare disease in nonimmunocompromised patients. Reports suggest an association between the overextension of certain root canal fillings (zinc oxide-based) and the pathogenesis of aspergillosis. Patients who are operated on for chronic sinusitis have presented aspergillomas in the paranasal sinus. In particular, aspergillus fumigatus has been found to be associated with maxillary sinus infection.

Design: A case of aspergillosis of the maxillary sinus is presented, and the pathogenesis involving a previous chronic sinusitis and the use of zinc-containing root canal sealers is discussed.

Results: A 49-year-old female complained of an intermittent diffuse pain in the left maxilla and orbital region. The patient reported a previous endodontic treatment of the left maxillary secondary molar. Her past medical history indicated chronic sinusitis in the left maxillary sinus two years earlier. Panoramic and periapical radiographs revealed a radiopaque mass with two radiopaque structures resembling gutta-percha cones. A CT scan demonstrated a concentric enlargement of the mucous membrane of the left maxillary sinus with a high-density structure suggesting a foreign body. A Cadwell-Luc procedure was performed, and a microscopic fungal hyphae showing typical dichotomous branching at a 45° angle was identified.

Conclusion: We suggest that a previous history of chronic sinusitis may indicate the alternative use of non-zinc-containing sealers in endodontic intervention, and that the differential diagnosis of chronic sinusitis is mandatory in order to plan an appropriate clinical therapy.

Pediatric/Neonatal

698 SCREENING FOR K-RAS MUTATIONS IN CONGENITAL CYSTIC AIRWAY MALFORMATION (CCAM) OF THE LUNG

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Background: Congenital cystic airway malformation (CCAM) is a rare lesion resulting from arrest in normal lung development, characterized by increased terminal respiratory structures with cyst formation. These lesions are classified into five morphologic types. Etiology is unclear, but increased cell proliferation, impaired apoptosis, and the emergence of bronchioloalveolar carcinoma (BAC) arising in type I CCAM suggest that these lesions may share the same pathogenetic mechanisms. Previous results from our group have shown overexpression of epidermal growth factor receptor (EGFR) on type I CCAM, which is also frequently found in BAC. The goal of the current study was to assess the presence of K-ras mutations, also related to BAC, which could be involved in the pathogenesis of CCAM.

Design: Paraffin embedded tissue sections were obtained from 9 cases of type 1 CCAM, 3 cases of type II and 2 cases of type III, along with 7 controls from normal fetal lung. Sections were deparaffinized with xylene at 37°, followed by DNA extraction using a commercially available Epicentre â kit. K-ras exon 1 was amplified through PCR reaction using specific primers, and the resulting templates were submitted to automated DNA sequencing.

Results: No K-ras mutations were found in any of the 21 studied samples, when compared to normal sequences of K-ras exon 1 deposited in GeneBank.

Conclusion: The previous findings of EGFR overexpression in type I CCAM, also frequently observed in BACs, support the notion of a link between the pathogenesis and malignant transformation of CCAMs. However, K-ras mutations, another type of molecular alteration found in BACs, could not be demonstrated so far in any of our samples. Interestingly, K-ras mutations in BACs are related to mucinous differentiation and absence of EGFR overexpression. Due to the absence of mucinous type CCAM in our studied samples, it is not possible to rule out a role for K-ras mutations in the pathogenesis of this disease. Studies with a larger number of samples of CCAM, including representative cases with mucinous differentiation, are currently being conducted.

699 INTRAPLACENTAL CHORIOCARCINOMA: A POTENTIALLY OVERLOOKED LESION IN THE TERM PLACENTA

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Background: Gestational trophoblastic disease ranges from partial to complete molar pregnancy up to malignant choriocarcinoma. Choriocarcinoma most frequently follows a previous complete hydatidiform mole. Very rarely choriocarcinoma occurs after a nonmolar full-term pregnancy. The long-held theory that choriocarcinoma following a term pregnancy results from foci of retained placenta or extraplacental trophoblast is challenged by this and other reports in the literature of intraplacental choriocarcinoma in term placentas following otherwise normal pregnancies.

Design: This is a case report of a 24-year-old gravida 2 para 1 Asian woman who was admitted for repeat Cesarean section at 38 weeks gestation. Due to the paucity of available literature, we add this case and review the literature.

Results: She delivered a healthy male infant uneventfully. The 420-gram placenta was grossly unremarkable. A single focus of cytotrophoblastic and syncytiotrophoblastic proliferation around a small cluster of villi was noted histologically. These cells stained focally for human chorionic gonadotropin (HCG), inhibin, and E-cadherin. The proliferation index (Ki-67 staining) approached 100%. The postpartum follow-up showed no elevation of maternal HCG. Both mother and infant are doing well and continue to be closely monitored. We attempted to further elucidate the origin of this neoplasm by $p57^{KIP2}$ immunohistochemical staining.

Conlusion: Our review of the literature of this unusual neoplasm reveals 30 cases. There is a high degree of multiparity. Prior hydatidiform mole is reported but not frequent. Fetal disease may be seen but is quite infrequent (1/30 cases). However, maternal disease was reported in 15 out of 30 cases (50%), of which four had a fatal outcome. Also, importantly, the lesion is not often grossly recognized in the placenta, but when seen, it resembles an infarct. $p57^{KIP2}$ is the protein product of the paternally imprinted gene CDKN1C and is normally expressed in villous cytotrophoblast and mesenchyme. Due to its androgenetic origin, complete hydatidiform mole fails to express this imprinted gene product. To our knowledge, this is the first report of $p57^{KIP2}$ staining in choriocarcinoma arising in a term placenta. Our findings clearly show that with the staining of villous mesenchyme (in addition to the morphology) the lesion was not a complete hydatidiform mole. Histologic evidence for choriocarcinoma arising within a placenta is rare. This can be likened to the "missing link" in anthropology circles. More often than not, a diagnosis is rendered only after maternal and/or fetal metastatic disease has been identified. But by then the prognosis is poor. This case supports the hypothesis that choriocarcinoma probably arises in the placenta more often than in retained or persistent trophoblast following pregnancy. Both