ABSTRACT NUMBER: 1553

THE IMPACT OF PROGNOSTIC FACTORS ON THE OUTCOME OF FUNCTIONAL ENDOSCOPIC SINUS SURGERY IN CHRONIC RHINOSINUSITIS

Prof. Ahmed Gama, Prof. Jean Lacroix, Hossam Elsherif Lectu

OBJECTIVE: To identify the prognostic factors that may affect the outcome of endoscopic sinus surgery (ESS) in chronic rhinosinusitis (CRS).

METHODS: 68 patients having CRS were studied including history taking, endoscopic examination,CT and measurement of nasal nitric oxide(nNO),nasal carbon monoxide (nCO) and total nasal airway resistance. All patients underwent ESS. The specimens were studied histopathologically (for eosinophilia) & Bacteriologically (for intracellular S. aureus).

STUDY DESIGN: Prospective study.

RESULTS: Intracellular S. aureus, old age, tissue eosinophilia, and Widal syndrome were found to be associated with a less favorable long-term outcome. In contrast, anatomic variants, allergy, bronchial asthma , and smoking do not seem to affect the prognosis of ESS in patients with CRS. Post-operatively, There was a significant increase in nNO and decrease in nCO production. Patients with polyposis showed less nNO level and olfactory threshold, but higher CT and endoscopic scores. . The CT score correlated positively with the endoscopic score, the surgery score, and the degree of tissue eosinophilia.

CONCLUSION: 1- The prognostic factors that may affect the outcome of ESS in CRS have been identified. 2- The postoperative increase in nNO and decrease in nCO levels raises the question of whether they can be used to monitor the treatment of CRS like their use in bronchial asthma or not. 3- The olfactory deficit in patients with polyposis is most likely due to mucosal inflammation rather than airway obstruction.

ABSTRACT NUMBER: 1557

IMMUNOLOGICAL ROLE OF NASAL STAPHYLOCOCCUS AUREUS CARRIAGE IN PATIENTS WITH PERSISTENT ALLERGIC RHINITIS

Prof. Maged Refaat, Tarek Mansor, Zenab Ashour, Mohamed Attia

INTRODUCTION: Nasal carriage of staphylococcus aureus (S.aureus) exerts immunomodulatory effect in patients with atopic dermatitis and it may contribute to airway inflammation and allergic response in patients with allergic rhinitis.

OJECTIVE: Investigate the frequency of nasal S.aureus carriage in patients with persistent allergic rhinitis and its possible influence on their symptoms and immune markers.

METHODS: We chosed 20 non smoker patients with house dust mite (HDM) allergy causing allergic rhinitis and 20 non smoker healthy subjects matched for age and sex. For all subjects rhinoscopy was done, skin prick test, nasal culture for S.aureus, nasal interleukin 4,nasal total IgE, serum total IgE and serum specific IgE(SSIgE) for HDM. Results: Nasal S.aureus was detected in 16/20 patients (80%) and 5/20 (25%) in healthy subjects with highly significant statistical difference $p<0.01$. Correlation of nasal staph.aureus count and different systemic and local immune markers revealed highly significant positive correlation between nasal staph. aureus count and serum total IgE ($r = 0.78$, $p<0.01$) and significant positive correlation with SSIgE (HDM) ($r = 0.53$, $p<0.05$), nasal total IgE ($r = 0.39$, $p<0.05$) and nasal IL-4 ($r = 0.55$, $p<0.05$).

CONCLUSION: Nasal staph.aureus actively modulated the immune reaction in persistent allergic rhinitis patients by promoting local IgE production, so we recommend early detection and treatment of S.aureus carriage in patients with allergic rhinitis.

ABSTRACT NUMBER: 1559

NEED OF ATTENTION TO THE NASOPHARYNGEAL TRACT HYGIENE

Fereidoun Heydarpour, Ph.D, Pouria Heydarpour, M.D, Robabeh Samadi, M.D

INTRODUCTION: Oral and dental hygiene has been in the center of attention, but nasopharyngeal tract hygiene left behind. Clearing nasopharyngeal tract reduced symptoms of nasal obstruction, sinusitis, allergic rhinitis, and epistaxis. In this study the effect of cleaning nasopharyngeal tract with warm normal saline was evaluated.

METHODS: About 10 g of purified salt which produced by re-crystallization method was poured in a jar with 1200 ml volume and warm water was added until the jar was filled. Washing of nasopharyngeal tract was performed twice daily, after waking up in the morning and before going to bed. Salt solution was gradually poured from the jar into one hand and doing suction with nose and pushing it out from the mouth.

RESULTS: Washing method of nasopharyngeal tract with warm normal saline is more tolerable than cold normal saline. Washing method removed all of the abnormal nasal discharge which could not be evacuated by blowing the nose. The nasopharyngeal passage remained clear for 12 hours after each washing, crust formation was prevented and normal nasal secretions were restored.

CONCLUSION: Pollution is a worldwide problem and its potential to influence the physiology of human populations is great, air pollution increases the rate of allergic rhinitis. Washing of nasopharyngeal tract help to remove allergens, and allergic rhinitis symptoms reduced. Removing of abnormal secretions reduced sinusitis symptoms and dissolution of crusts contributed to control epistaxis. Chloride help to turn abnormal nasal secretion to normal and remain open nasal passage.

ABSTRACT NUMBER: 1560

ENDOSCOPIC REMOVAL OF GIANT CELL REPARATIVE GRANULOMA OF THE SINUSES: CASE REPORT AND REVIEW OF THE LITERATURE

Eugene Chang, MD, James Brookes, MD, Richard Smith, MD

INTRODUCTION: Giant cell reparative granuloma (GCRC) is an inflammatory process characterized by bone formation and repair most often involving the maxilla, mandible and long bones. GCRG of the paranasal sinuses is extremely rare. We present an illustrative case and review all reported cases of GCRG in this location.

METHODS: 27 cases of surgically confirmed GCRC of the paranasal sinuses have been reported.

CASE STUDY: A 16-year-old female evaluated for left-sided headaches and diplopia by MRI was found to have a left anterior ethmoid mass that abutted the skull base, encroached into the left orbital cavity and pushed the nasal septum to the right. The mass was endoscopically excised, with final pathology showing GCRC. One month later, a second and definitive endoscopic procedure was completed to remove residual disease. Endoscopic examination four months later showed no evidence of disease, which was confirmed by CT.

RESULTS: All patients who presented with GCRG of the paranasal sinuses underwent surgery. Approaches ranged from isolated concha bullosa

removal to craniofacial resections; follow up ranged from one month to 14 years. Recurrences (7/21) and persistent disease (3/21) were noted early after the primary procedure (avg-3 months) and were treated with more extensive surgery, radiation, or antiangiogenic therapy.

CONCLUSION: GCRC is rarely encountered in the parasinuses. Because it can be locally aggressive, treatment in this location can be challenging. Extensive surgery can be required, but as we describe, endoscopic removal is also possible and minimizes the morbidity of this disease.

ABSTRACT NUMBER: 1562

CT-MR IMAGE FUSION FOR THE MANAGEMENT OF SINONASAL LESIONS

Dr. Harvinder Singh, Prof. Dharambir Sethi, Dr. Leong

OBJECTIVE:To investigate the indications and accuracy of computed tomography (CT) and magnetic resonance (MR) (CT-MR) image fusion in intra-operative image guidance system during endoscopic nasal surgery.

METHODS: Patients that underwent CT-MR fusion studies between March 2007 till January 2008 were reviewed. CT scan images (1-mm axial) were obtained on a multi-detector CT scanner. MR images (1-mm axial) were obtained with a T1-weighted, volume acquisition technique. CT-MR fusion images were created on the Landmarx (Medtronic Xomed Jacksonville, Florida) Workstation. The accuracy of fused images was analysed. The optical tracking system used infrared technology for intraoperative navigation. Protocols used for registration are paired point registration (PPR) and contour-based registration (CBR). True intra-operative evaluation (TRE) of navigation accuracy was obtained by repeated referencing against known anatomical landmarks.

RESULTS: Fifty- four patients were included in this study. All CT-MR image fusion studies were carried out for diagnostic evaluation or pre-operative planning. The patient group included 34 men and 20 women with mean age of 47.74 years (range =18-79 years). Some patients had more than 1 indications. The diagnoses included neoplasms (13 benign and 5 malignant), chronic sinusitis (20), mucoceles (7), nasal polyposis (10) each, 4 cerebrospinal fluid (CSF) leak, antrochoanal polyp (3), and one each of clival cyst and post choanal stenosis. The indications for performing the fusion scans were to assess tumor extent, mucocele loculation, bony erosions along skull base or orbital walls and the integrity of the optic nerve and internal carotid artery. The resulting composite CT-MR images were accurate and clear. During pre-operative planning and intra-operative navigation, CT-MR fusion facilitated the delineation of the anatomic relationships of the paranasal sinuses, the lesions and the skull base.

CONCLUSIONS: CT-MR image fusion yields composite images that combine features of each component imaging modality. Image fusion, when combined with surgical navigation, further enhances applications of minimally invasive endoscopic surgery in complicated sinonasal and skull base cases.

ABSTRACT NUMBER: 1566

STUDY ON PROTEIN KINASE C ACTIVITY IN PERIPHERAL BLOOD T LYMPHOCYTES WITH ALLERGIC RHINITIS AND ITS SIGNIFICANCE

Shuqi Qiu, Xianhai Zeng

OBJECTIVE: To investigate the protein kinase C (PKC) activity in peripheral blood T lymphocytes with allergic rhinitis (AR) and the relationship between PKC activity and Th2 cytokines.

METHODS: 20 seasonal allergic rhinitis patients and 20 normal control persons participated in the study, T lymphocytes were isolated and purified from blood of each person who was divided into 2 groups: control group, the group were stimulated with phorbol 12-myristate 13-acetate(PMA), The total PKC activity of was detected by non-radioactive assay. The expression of IL-4 and IL-5 protein in supernatants were measured by ELISA.

RESULTS: PKC activity, the expression of IL-4 and IL-5 protein in supernatants in AR T lymphocyte stimulated with PMA were significantly higher than those of AR T lymphocyte stimulated without PMA and those of normal($P<0.01$, respectively), compared with those normal, PKC activity in AR control was significantly enhanced ($P<0.01$,respectively). The expression of IL-4 and IL-5 protein in supernatants of AR T lymphocyte stimulated without PMA weren significantly higher than those of normal ($P>0.05$,respectively), There were good positive correlation between PKC activity of T lymphocyte and the expression of IL-4 and IL-5 protein in supernatants ($P<0.01$ respectively).

CONCLUSIONS: PKC activity and the expression of IL-4 and IL-5 in AR w significantly enhancer than those of normal control,The activation of PKC signal pathway of T lymphocyte may play an important role in the pathogenesis of allergic rhinitis.

ABSTRACT NUMBER: 1568

NOCTURIA IN OBSTRUCTIVE SLEEP DISORDERS

Bilal Cetin, Murat Erdem, Sinan Yetkyn, Fuat Ozgen

INTRODUCTION: Nocturia is a common complaint in obstructive sleep disorders (OSD) and its extremely effect life quality. There is no much more study prevalence and frequency of nocturnal urination in a OSD patients. In this study its aimed that to determine the prevalence and frequency of nocturnal urination among patients with SDB of different severities and to discover the factors related to nocturia.

METHOD: A retrospective review was conducted among 200 OSD and 100 snoring patients. These patients were compared with regard to frequency of nocturnal urination, age, sex, apnea- hypopnea index (AHI), body mass index (BMI) and current medical conditions.

RESULTS: Nocturi prevelance was faund %62 in severe OSD patients. This result was significant difference mild OSD and snoring patients. There were found significant correlations between OSD patients and age, AHI.

CONCLUSION: Age and AHI were effect nocturia, BMI and current medical status were no effect nocturia.

ABSTRACT NUMBER: 1570

HISTOLOGICAL CHANGES IN INFERIOR TURBINATES POST COBLATION FOR TURBINATE HYPERTROPHY

Itzhak Braverman, M.D., Shelton Malatskey, M.D., Mary Amar, M.D.

INTRODUCTION: Although most cases of nasal obstruction respond to conservative anti-allergic treatment, some cases still require surgery. Surgical treatment is controversial; many methods have been implemented and literature reports debates relating to the amount of turbinate reduction necessary and resultant histological changes encountered. Coblation technology is based on an electric current flow in fluid resulting in tissue degradation without heat production or damage to surrounding tissues. We evaluated histological changes in patients who underwent inferior turbinectomy (IT) following coblation therapy.

METHODS: 121 patients who suffered from chronic nasal obstruction and failed to respond to conservative treatment were referred for IT coblation. 4/121 patients did not respond to this procedure and underwent turbinectomy. Eight IT's were subtotally removed with scissors and sent for pathological examination.

RESULTS: 117/121 (96.7%) showed significant improvement in nasal breathing. The 4/121 (3%) patients who did not respond were given a three-week interval follow-up, two months post-procedure. On pathological examination the specimens macroscopically appeared well-preserved; on microscopic examination minimal changes were observed. The respiratory covering epithelium was largely intact with only few areas showing squamous metaplasia. Some underlying areas showed fibrosing stroma with a slight degree of atrophy to the regional mucus glands. Compared to normal IT histology these changes in glandular and fibrotic components were minor.

DISCUSSION: IT coblation presented a high success rate; is a safe and effective office procedure, with relatively minimal histological changes observed by pathological examination. Less glandular tissue in post-coblation turbinates is a favorable factor in IT reduction for allergic patients with hypertrophic turbinates.

ABSTRACT NUMBER: 1574

ISCHEMIC BRAIN DAMAGE INDUCED AFTER ADENOTONSILLECTOMY IN ACHONDROPLASIA

Tae-Hoon Lee, MD, Bo-Young Kim, MD, Jeong-Yup Son, MD

INTRODUCTION: Sleep apnea is commonly found in children with achondroplasia. They can have obstructive and/or central sleep apnea related to neurological complications. These neurological complications can lead to morbidity and sometimes mortality and are associated with sudden infant death syndrome (SIDS). In addition, special care should be taken during anesthesia and adenotonsillectomy because existing cervicomedullary compression can result in apnea as well as cervical myelopathy and consequent paralysis and death.

CASE STUDY: We describe a 5-year-old girl with achondroplasia who suffered ischemic brain damage after adenotonsillectomy, and discuss the evaluation of sleep apnea and mechanisms of ischemic brain damage in patients with achondroplasia.

ABSTRACT NUMBER: 1581

TH2 CYTOKINE INHIBITOR SUPLATAST TOSILATE INHIBITS ANTIGEN-INDUCED MUCUS HYPERSECRETION IN THE NASAL EPITHELIUM OF SENSITIZED RATS

Takeshi Shimizu, MD, Shino Shimizu, MD, Reiko Hattori, MD

OBJECTIVES: Th2 cytokines such as Interleukin (IL)-4 and IL-13 are potential mediators for mucus hypersecretion in allergic inflammation. To elucidate the functions of Th2 cytokines in allergic rhinitis, we examined the in vivo effects of Th2 cytokine inhibitor suplatast tosilate on mucus hypersecretion and eosinophil infiltration in rat nasal epithelium.

METHODS: We induced hypertrophic and metaplastic changes in goblet cells in the nasal epithelium of ovalbumin (OVA)-sensitized rats by intranasal challenge with OVA. The effects of orally administered suplatast tosilate on mucus production and eosinophil infiltration were examined.

RESULTS: Suplatast tosilate (30 and 100 mg/kg) dose-dependently inhibited OVA-induced mucus production and eosinophil infiltration. These suppressions of mucus production and eosinophil infiltration were only effective when suplatast tosilate was given in the effector phase; administration in the induction phase resulted in no effect.

CONCLUSION: These results indicate that Th2 cytokines are important mediators for mucus hypersecretion and eosinophil infiltration in allergic rhinitis. Suplatast tosilate may be useful for the treatment of allergic rhinitis by attenuating the inflammation of the effector phase.

ABSTRACT NUMBER: 1591

NOVEL 5MM, 0-DEGREE WIDE-ANGLED SKULL BASE ENDOSCOPE

Joao Nogueira, MD, Aldo Stamm, PhD, Shirley Pignatari, PhD

INTRODUCTION: The development of nasal endoscopic surgical techniques paralleled advances in the technology of optic fibers, crystal lenses, angled endoscopes, new light sources, and camera systems. These concurrent advances allowed surgeons to perform more complicated procedures in the nose, paranasal sinus, skull base, and beyond. But as new fronteirs are crossed, more complex procedures require the development of special instrumentation to optimize the safety and feasibility of the more complicated procedures.

OBJECTIVE: To describe the development of a 5-mm, 0-degree wide-angled 18 cm nasal endoscope, and its use in surgical procedures involving the nose, paranasal sinuses, and skull base.

METHODS: We used the novel endoscope in transnasal/transseptal binostril pituitary operations, and compared the visual field, quality and brightness of lighting, focus capability, image sharpness and technical difficulties to the traditional 4-mm, 0-degree endoscope.

RESULTS: In every case, the visual field appeared larger with the 5-mm, 0-degree wide-angled endoscope than the images generated by the traditional 4-mm. endoscope. The novel endoscope also exhibited slightly better quality of light and image sharpness. There was more difficulty obtaining optimal focus with the novel endoscope, specially at the peripheral areas of the visual field. The larger size was more difficult to use in small nasal cavities.

CONCLUSIONS: The new 5-mm, 0-degree wide-angled endoscope is a magnificent addition for endoscopic nasal, paranasal and especially, skull base surgery. No significant difficulties or limitations were noticed with this new device.

ABSTRACT NUMBER: 1593

USE OF NASAL SEPTUM FLAPS IN ENDOSCOPIC SURGERY

Joao Nogueira, MD, Aldo Stamm, PhD, Shirley Pignatari, PhD, Maria Silva, MD

INTRODUCTION: The surgery of the nose, paranasal sinus, skull base and brain has changed dramatically with endoscopic techniques in the past few decades. One of these new techniques is the use of nasal flaps. These flaps can be originated almost in every spot of the nasal cavity, from the septum to the lateral wall of the nose, allowing access to structures, treatment of lesions and reconstruction of defects. There are several applications for the use of nasal flaps, from pediatric to elderly patients.

OBJECTIVE: Review the surgical technique, use and applications of the most common nasal flaps in endoscopic surgery.

METHODS: Literature and chart review from patients submitted to endoscopic surgery of the nose, paransasal sinus and skull base, the nasal flaps created, its application and efficacy.

RESULTS: Several nasal flaps were reviewed: from flaps in the treatment of choanal atresia to closing large skull base defects.

CONCLUSION: Nasal flaps, pediculated or not, can be used for several pourposes. The surgical technique is feasible and its use can help surgeons in many different applications.

ABSTRACT NUMBER: 1595

EXPRESSION OF GLUTAREDOXIN-1 IN NASAL POLYPS AND AIRWAY EPITHELIAL CELLS

Yong-Dae Kim, MD, Hyun-Jae Woo, MD, Heung-Man Lee, MD

BACKGROUND/OBJECTIVE: Glutaredoxins-1 (GRX-1) are glutathione-dependent oxidoreductases. However, the role of these enzymes remains unknown in airway inflammatory diseases. Therefore, we aimed to demonstrate the expression pattern of GRX-1 in the nasal polyps (NPs) and to assess the regulatory mechanisms associated with GRX-1 expression in IL-1â-treated airway epithelial cells.

METHODS: The expression of GRX-1 in NPs and normal nasal mucosa were analyzed by RT-PCR and immunohistochemical staining. IL-1 â-induced reactive oxygen species (ROS) formation and GRX-1 expression in the airway epithelial cells was determined by flow cytometry and immunoassay.

RESULTS: The expression level of GRX-1 in NPs was significantly higher than in the normal nasal mucosa ($p < 0.05$). GRX-1 was highly expressed in the surface epithelial cells and the submucosal glandular cells in the NPs. IL-1â increased the intracellular ROS formation and GRX-1 expression in airway epithelial cells. The inhibition of IL-1â-induced ROS production by N-acetyl-cystein, a ROS scavenger, reduced GRX-1 expression. Diphenylene iodinium and apocynin, NADPH oxidase inhibitors, did not abolish IL-1â-induced ROS formation and GRX-1 expression, whereas budesonide attenuated it.

CONCLUSION: High GRX-1 expression in NP might be a primary defense against chronic inflammatory stress in nasal mucosa. IL-1â-induced upregulation of GRX-1 in airway epithelial cells is probably mediated by ROS. Glucocorticoids can regulate IL-1â-induced ROS formation and GRX-1 expression.

ABSTRACT NUMBER: 1596

CLINICAL CLUES TO DIFFERENTIATE ALLERGIC AND NONALLERGIC RHINITIS IN A LARGE SAMPLE OF REFERRED PATIENTS

Mustafa Akarcay, Dr. Murat Miman, Tamer Erdem, Semih Oncel

OBJECTIVE: The aim of this study is to emphasize on the value of the clinical history of rhinitis and to fill some of the gaps of knowledge about differential diagnosis of rhinitis.

METHODS: A total number of 910 patients were set by their diagnosis into one of the rhinitis groups; seasonal allergic rhinitis (SAR), perennial allergic rhinitis (PAR) and non-allergic rhinitis (NAR). Patients' admitting seasons to clinic, types and duration of symptoms, triggering factors, parental history, associated allergic diseases (skin, lung, eye), findings in nasal examination, and skin prick test results were analyzed for statistical difference between groups.

RESULTS: Patients with SAR were found younger than both the patients with NAR and PAR . It was found that patients with SAR were most commonly admitted in spring and summer, while least in winter when compared with other groups. Itchy complaints and eye redness were found more frequent in SAR patients. The most common inducing factors were temperature changes, detergent odor and cold air for NAR and green area visit for SAR. In nasal examination, pale nasal mucosa was statistically more prominent in the NAR group.

CONCLUSION: Seasonal exacerbations of rhinitis symptoms is a typical information in allergic rhinitis sufferers, particularly in SAR. Common physical and chemical factors inducing rhinitis symptoms are not sufficient to differentiate rhinitis, with the exception of green area visit and some activities in the rural area. Nasal examination, alone, adds nothing to clinical data when trying to differentiate rhinitis subgroups.

ABSTRACT NUMBER: 1597

DO CO-MORBIDITIES INFLUENCE OBJECTIVE AND SUBJECTIVE RECOVERY RATES OF NASAL POLYPOSIS?

Dr. Yezdan Firat

OBJECTIVES: To investigate the clinical and laboratory outcomes both objectively and subjectively in nasal polyposis patients with or without co-morbidity (CoM) (asthma and allergy).

MATERIALS AND METHODS: Thirty-three nasal polyposis patients (13 females, 20 males) were included into the study. The mean age was 39.23 ± 9.13 years. CoM(+) and CoM(-) nasal polyposis patients were compared with each other. Evaluations contained endoscopic nasal examination, acoustic rhinometry, rhinomanometry, visual analog scale score of nasal blockage, olfactory function score, respiratory function test, skin prick tests and paranasal sinus computerized tomography.

RESULTS: Total recovery was observed in all followed evaluations for endoscopic and radiologic staging, nasal obstruction and sense of smell compared with the first evaluation in all patients regardless of the subgroups. Although objective measurements of respiratory functions did not show any change, clinical improvement was detected in CoM(+) patients with a decrease of the need to their anti-asthmatic medical treatment.

CONCLUSION: Relatively worse results in CoM(+) patients leaded no statistical difference when compared with CoM(-) subgroup. This may bring not more than the need for close follow-up of the patients with co-morbidities when applied such as predefined treatment protocol for nasal polyposis.

ABSTRACT NUMBER: 1613

THE EFFECTS OF SEPTOPLASTY ON MIDDLE TURBINATE SIZE

Sohrab Shahab, MD, Hassan Ramadan, MD

INTRODUCTION: The chicken and egg argument of whether turbinate hypertrophy or septal deviation comes first has been heavily debated for decades. In an attempt to resolve this ongoing debate, it seems intuitive to examine the effects of septolasty on middle turbinate (mt) size. It has been noted that the mt on the convex side of severe septal deviation is often thin, foreshortened and flimsy. The cause for this underdevelopment has not been elucidated, however it seems that a lack of airflow on the convex side of the septum may contribute to this phenomenon.

METHODS: The preoperative and postoperative CT scans of patients who underwent septoplasty and unilateral concha bullectomy were retrospectively reviewed. The height and width of the mt on the convex side of the septum were measured at the tip of the mt and at the level of the uncinate process on the preoperative and postoperative scans. Statistical analysis was then performed using SAS software.

RESULTS: The width of the mt at its tip increased by 28.9%, 0.9mm (p=0.0166), the width of the mt at the level of the uncinate process increased by 21.7%, 1.0mm (p=0.0098), the height of the mt at its tip increased by 5.4%, 1.3mm (p=0.0085), the height of the mt at the level of the uncinate process increased by 2.8%, 0.7mm (p=0.2932).

CONCLUSION: Unilateral mt hypertrophy occurs after septoplasty in patients with severe septal deviation. This is most likely secondary to exposure of increased airflow of the previously airflow deprived underdeveloped turbinate.

ABSTRACT NUMBER: 1615

ANTROCHOANAL POLYPS WITH ASSOCIATED OSSEOUS FRAGMENTS: NIDUS OF INFLAMMATION AND ORIGIN OF DISEASE?

David Darley, MD, Parul Goyal, MD

OBJECTIVES: Antrochoanal polyps (ACP) can be associated with recurrence despite surgical resection. This report presents the finding of bone fragment at the base of ACP and how this finding may play a role in the pathogenesis and adequate treatment of ACP.

STUDY DESIGN: Case report and literature review.

METHODS: The medical records, imaging studies, and intraoperative findings of two patients with ACP are reviewed. The literature is also reviewed.

RESULTS: Two patients with ACP underwent endoscopic sinus surgery. Both patients were found to have a region of bony irregularity at the base of the polyp on pre-operative CT scan. Intraoperatively, a loose bone fragment was seen submucosally at the base of the ACP in both cases. The fragment was removed after the attachment site of the polyp was resected.

CONCLUSION: ACP have been observed to arise from chronic inflammation of the nasal mucosa of the paranasal sinuses. The underlying pathophysiology is unknown, but bacterial, fungal, and allergic etiologies have been proposed. This report describes the presence of osseous fragments at the base or origin of the ACP. Although cause and effect cannot be determined based on this limited report, it is possible that the bone fragments represent a nidus of inflammation. Removal of the polyp attachment site and any associated bone fragments may be important in decreasing the likelihood of recurrence. These findings may provide further insight into the pathogenesis of the disease and further may help to improve clinical treatment and outcome through recognition and removal of the fragments.

ABSTRACT NUMBER: 1621

IS THERE ANY RELATIONSHIP BETWEEN TURBULENCE MADE BY SEPTAL DEVIATION AND ALLERGIC SEVERITY

Bumjo Jung

BACKGROUD AND OBJECTIVE: Turbulence through the nasal cavity by septal deviation can make allergen Contact to nasal mucosa more time. So I want to know the relationship between septal deviation severity and allergic status especially measured by MAST(multiple allergen stimulation test).

MATERIAL AND METHODS: I reviewed 100 allergic patient living in ilsan KOREA, and checked Water's view & Caldwell's view and MAST result. I checked Septal deviation severity by sum of triangular area which was made by the distance between anterior nasal spine and cribriform plate and distance between this line and deviated septal apex.

RESULTS: Regression analysis was done for Evaluation of septal deviation and allergic status. And there is no statistically significance between two variable.

CONCLUSION: The aggravating factor to allergic rhinitis should be found in many method. That can be make human life more better. So we had better find may factor to aggravating allergic rhinitis.

ABSTRACT NUMBER: 1624

FIBROEPITHELIOMA OF PINKUS ON MUCOCUTANEOUS JUNCTION AT THE NOSTRIL

Joohwan Kim, MD

ABSTRACT NUMBER: 1629

THE NASAL ENDOSCOPIC SIMULATOR AS A TEACHING TOOL FOR SURGICAL ANATOMY

Erdal Seren, M.D.

BACKGROUND: Nasal endoscopic simulators allow trainees to practice techniques without consequences, reduce potential risk associated with training, and help to develop standards and optimize procedures before endonasal surgery.

METHODS: We developed a software program that is called "Nasal endoscopic simulator; NES". Computer algorithms were developed using Microsoft Visual Basic 6.0 languages. Texture-mapped digitized images provided a close anatomic similarity to actual video-endoscopic images.

RESULTS: NES is expected to provide benefits in many aspects of surgical procedure training and evaluation.

CONCLUSION: NES can be beneficial as a tool for training and preoperative planning. Computer based simulation provides not only a cost effective alternative to traditional training but also a way to assess the surgeons performance. Disadvantages identified were time consumption, absence of force feedback.

ABSTRACT NUMBER: 1634

EFFECTS OF DIETARY POLYPHENOLS ON MUC5AC GENE EXPRESSION IN RESPIRATORY EPITHELIAL CELLS AND ON CILIARY MOVEMENT

Kyung-Su Kim, MD, Hyun Jun Kim, Kee Jae Song, Joo-Heon Yoon

INTRODUCTION: Dietary polyphenols have been widely consumed in food, and their anti-inflammatory, anti-oxidative and anti-mutagenic activities have been recently studied. However, the effect on mucin hypersecretion or mucociliary movement of dietary polyphenol has not been elucidated yet. Therefore, this study was to investigate whether dietary polyphenols ([6]-gingerol, EGCG, curcumin, quercetin) inhibit MUC5AC gene expression, and if so, whether they would have effect on the ciliary movement of human nasal mucosa.

MATERIALS AND METHODS: After NCI-H292 cells had been treated with IL-1â (10 ng/ml) and pretreated with 4 different dietary polyphenols ([6]-gingerol, EGCG, curcumin, quercetin), the mRNA expression of MUC5AC was determined by real-time polymerase chain reaction. Normal nasal mucosa was obtained during sphenoid sinusotomy and treated with minimal inhibitory concentration of each polyphenol. Ciliary movement was assessed via inverted microscope and computerized program.

RESULTS: Minimal inhibitory concentration of MUC5AC gene expression in each polyphenol was found as following; [6]-gingerol 1 ìM, EGCG 20 ìM, quercetin 40 ìM, and curcumin 10 ìM. Each polyphenol did not influence cell proliferation at this minimal inhibitory concentration. In assessment of ciliary movement, [6]-gingerol, quercetin, EGCG did not show any difference between control group and experiment group, but curcumin showed decrease of ciliary movement.

CONCLUSION: [6]-gingerol, quercetin, and EGCG suppress MUC5AC gene expression and maintain normal ciliary movements. Therefore, these polyphenols may be used as anti-hypersecretory agents and the further clinical study will be needed.

ABSTRACT NUMBER: 1635

INCREASED EXPRESSION OF MUC16 MUCIN GENE IN CHRONIC RHINOSINUSITIS

Heung-Man Lee, MD, Hyo-Hyun Park, MS, Yong-Dae Kim, MD

BACKGROUND: The primary mechanisms leading to mucus hypersecretion in chronic sinus inflammation are not well understood. MUC16 encodes a cell surface membrane-anchored mucin expressed in the normal gastrointestinal tract, trachea, cornea, middle ear mucosa, lacrimal gland and kidney as well as colorectal, esophageal, gastric, pancreatic, and lung cancers. However the expression of MUC16 in sinus mucosa is not known yet.

OBJECTIVES: This study aims to investigate the expression of MUC16 messenger RNA (mRNA) and to localize the protein and to compare between normal and chronically inflamed sinus mucosa.

METHODS: Twenty patients with chronic rhinosinusitis who were undergoing functional endoscopic sinus surgery were recruited for the study. Twenty patients with no evidence of sinus disease were used as control subjects. RNAs were extracted from sinus mucosa, and semiquantitative reverse transcription-polymerase chain reaction was performed for MUC16. Localization and expression of MUC16 protein was sought by immunohistochemical staining and western blotting analysis.

RESULTS: The level of MUC16 mRNA expression in chronic rhinosinusitis was significantly increased compared with that in normal sinus mucosa. We found more intense expression of MUC16 protein in the sinuses with chronic rhinosinusitis than in normal sinus mucosa.

CONCLUSION: These results suggest that increased expression of MUC16 in chronic rhinosinusitis may play an important role in the pathogenesis of sinus hypersecretion in chronic rhinosinusitis.

ABSTRACT NUMBER: 1638

THROMBIN STIMULATES VEGF PRODUCTION FROM NASAL EPITHELIAL CELLS

Shino Shimizu, MD, Eriko Hoshi, MD, Satoshi Seno, MD, Takeshi Shimizu, MD

BACKGROUND: Thrombin does not only serve as a coagulation factor, but also relates airway inflammation by activating protease-activated receptors (PARs). Vascular endothelial growth factor (VEGF) is an important mediator for airway remodeling of the nasal cavity such as polyp formation.

OBJECTIVES: In the present study, we evaluated whether inflammation increases generation of thrombin in nasal secretion, and whether thrombin stimulates VEGF production from nasal epithelial cells.

METHODS: We measured the concentration of thrombin in nasal secretion from patients with chronic sinusitis and nasal allergy, using thrombin specific substrate. The effects of thrombin on VEGF production from cultured human nasal epithelial cells were examined. The expressions of PARs and VEGF in human nasal mucosa were also examined by the immunohistochemical staining.

RESULTS: We found that the concentration of thrombin is elevated in allergen-induced nasal secretion from patients with nasal allergy. Enzyme immunoassay demonstrated that thrombin and agonist peptide of PAR-1 stimulated VEGF secretion from human nasal and bronchial epithelial cells. Immunohistochemistry revealed the expressions of PAR-1 and VEGF in nasal epithelial cells from patients with nasal polyps.

CONCLUSION: These results indicate that thrombin plays an important role in airway remodeling by stimulating the VEGF production from nasal epithelial cells via its receptor PAR-1.

ABSTRACT NUMBER: 1646

OLFACTORY DISTORTIONS: ETIOLOGIC-BASED DIFFERENCES IN CLINICAL PRESENTATION

Wendy Smith, MD, Terence Davidson, MD, Claire Murphy, PhD

INTRODUCTION: Dysosmias (i.e., phantosmias and parosmias) are sensory distortions estimated to occur in 10-60% of patients with olfactory loss. However, relatively little is known about this condition. This study aimed to characterize differences in clinical presentation, symptom ratings and psychophysical measures of olfaction in patients with dysosmia based on etiology of smell loss.

METHODS: Retrospective chart review of patients who presented to a university-based nasal dysfunction clinic with complaint of dysosmia. Workup included complete history, examination, psychophysical testing, and imaging. Data were analyzed using univariate and post-hoc analysis.

RESULTS: One hundred and two patients (males=45, females=57) with dysosmias were identified. Thirty-nine patients presented with only phantosmia, 32 patients with only parosmia, and 31 patients with both. The most common etiology in males was inflammatory disease (36%), compared to post-viral (35%) for females. Parosmias were significantly more likely to occur among patients with post-viral olfactory loss (means significantly different, $p<0.05$), whereas phantosmias were more likely amongst patients with inflammatory and traumatic etiologies (means significantly different, $p<0.05$). Patients with traumatic smell loss were significantly more likely to have lower olfactory function scores as compared to inflammatory and "other" etiologies (means significantly different, $p<0.01$). No significant group differences were seen in rates of reported hypogeusia or dysgeusia, trigeminal function, or ability to identify the odor associated with dysosmia. Attempted treatments include observation, oral steroids, antibiotics, nasal irrigation, and olfactory ablation.

CONCLUSIONS: Olfactory distortions affect many types of patients with olfactory loss. Significant differences in clinical presentation are found between etiological groups.

ABSTRACT NUMBER: 1648

CHONDROID CHORDOMA OF THE SELLA MIMICKING A PITUITARY ADENOMA

Arthur Wu, MD, Neil Martin, MD, Marilene Wang, MD

INTRODUCTION: The vast majority of masses in the sella are pituitary adenomas. Chordomas of the sella are rare lesions but the presenting symptoms are similar to a pituitary mass. Here we describe a patient who presented with slowly progressive right-sided visual loss and bitemporal visual field deficits. MRI demonstrated a 2 cm sellar mass, extending superiorly to compress the optic chiasm. Neuroradiology interpreted the mass as a pituitary macroadenoma. Surgical resection was done, and the pathology results demonstrated a chondroid chordoma. The radiographic and pathologic findings will be presented and compared with those of a pituitary adenoma.

METHODS: Case report.

RESULTS: A 50 year-old patient presented with signs and symptoms of a pituitary adenoma. He underwent endoscopic transnasal transphenoidal resection of this tumor. At the time of surgery a gelatinous mass was found in the sella with involvement of the sellar bone. Areas where the bone was invaded by tumor were drilled down. The final pathology was chondroid chordoma. Post-operative imaging demonstrated complete gross removal of the mass.

CONCLUSION: Chondroid chordomas are rare, slow growing but locally aggressive tumors derived from embryonic remnants of the notochord. Intrasellar chordomas are very rare and can be confused clinically and radiographically with pituitary adenomas. The lesions are nearly identical on MRI; however T2-weighted imaging can sometimes demonstrate higher density in chondroid chordomas versus adenomas. CT scans also may be helpful demonstrating bony destruction from these lesions, as well as intralesional calcifications. Surgical removal via a transnasal endoscopic approach is the treatment of choice.

ABSTRACT NUMBER: 1649

ENDOSCOPIC REMOVAL OF A LOBULAR CAPILLARY HEMANGIOMA OF THE NASAL CAVITY INVADING THE DURA

Arthur Wu, MD, Neil Martin, MD, Marilene Wang, MD

INTRODUCTION: Lobular capillary hemangiomas, also known as pyogenic granulomas, are benign skin and mucosal lesions of unclear etiology, associated with trauma, pregnancy, and oral contraceptive use. The majority of pyogenic granulomas are found in the oral cavity, with rare occurrence in the nasal cavity. Here we describe an unusual case of a patient with a large nasal pyogenic granuloma invading the dura.

METHODS: Case report.

RESULTS: A 56 year-old patient presented with a several month history of increasing headache, hyposmia, and nasal congestion. The patient denied epistaxis, a history of nasal trauma, or previous sinus problems. She was found to have a large friable mass of the left nasal cavity. MRI revealed a 3.5 cm mass centered in the left ethmoid, eroding through the cribiform plate with adjacent dural enhancement. Biopsy demonstrated a benign vascular lesion. The patient underwent endoscopic resection of the mass. The mass thinned the lamina papyracea, eroded through the cribiform, and adhered to the dura. A dural defect was closed with fascia lata and fat grafts. Postoperative imaging showed complete removal of tumor. Final pathology demonstrated lobular capillary hemangioma.

CONCLUSION: Pyogenic granulomas of the nasal cavity are rare and may be detected later than those of the oral cavity. While small lesions are amenable to endoscopic removal, larger lesions in the literature have typically necessitated open craniofacial techniques, with bleeding being the main deterrent. This case report demonstrates that even large lesions with intradural extension can be completely resected via endoscopic techniques.

ABSTRACT NUMBER: 1651

CLINICAL ANALYSIS OF SINONASAL INVERTED PAPILLOMA ACCORDING TO STAGING SYSTEM

Joohwan Kim, MD, Jin-Hee Cho, MD, Sung Won Kim, MD, Soo Whan Kim, MD

OBJECTIVE: To evaluate our results in the treatment of the nasal inverted papillomas according to staging system using a retrospective case series.

METHODS: Between March, 1997 and July, 2007 we treated 157 patients with nasal inverted papillomas. A retrospective review was performed to evaluate the demographic data, clinical presentations and involved site of tumor. Histologically proven cases with a minimum of 12 months follow-up period were included. All patients were staged according to the Krouse's staging system and new staging system by Citardi et al. We compared the recurrence rate according to the tumor stage.

RESULTS: The median age was 53.7 years and 71% were male. The most frequent presenting complaint was nasal obstruction. The most common site of involvement was the lateral nasal wall. According to the Krouse's staging system, T1, T2, T3 and T4 were 29 (19.3%), 69 (46%), 51 (34%) and 1 (0.7%). According to the staging system by Citardi et. al. group A, B and C were 98 (65.3%), 51 (34%) and 1 (0.7%). The recurrence rates of T1, T2, T3 and T4 were 3 (10.3%), 8 (11.6%), 8 (15.7%) and 1 (100%). The recurrence rates of group A, B and C were 11 (11.2%), 8 (15.7%) and 1 (100%).

CONSLUSIONS: The Krouse's staging system, based on the involvement of IP, is a simple tool for grading IP. New staging system by Citardi et. al. provides information about recurrence rates after surgery. Both staging system could provide important objective data.

ABSTRACT NUMBER: 1654

EXPRESSION OF GLUTAREDOXIN-1 IN NASAL POLYPS AND AIRWAY EPITHELIAL CELLS

Yong-Dae Kim, MD, Hyun-Jae Woo, MD, Heung-Man Lee, MD

BACKGROUND/OBJECTIVE: Glutaredoxins-1 (GRX-1) is glutathione-dependent oxidoreductase. However, the role of these enzymes remains unknown in airway inflammatory diseases. Therefore, we aimed to demonstrate the expression pattern of GRX-1 in the nasal polyps (NPs) and to assess the regulatory mechanisms associated with GRX-1 expression in interleukin (IL)-1â treated airway epithelial cells.

METHODS: The expression of GRX-1 in NPs and normal nasal mucosa were analyzed by RT-PCR and immunohistochemical staining. IL-1â-induced reactive oxygen species (ROS) formation and GRX-1 expression in the airway epithelial cells was determined by flow cytometry and immunoassay.

RESULTS: The expression level of GRX-1 in NPs was significantly higher than in the normal nasal mucosa ($p < 0.05$). GRX-1 was highly expressed in the surface epithelial cells and the submucosal glandular cells in the NPs. IL-1â increased the intracellular ROS formation and GRX-1 expression in airway epithelial cells. The inhibition of IL-1â-induced ROS production by N-acetyl-cystein, a ROS scavenger, reduced GRX-1 expression. Diphenylene iodinium and apocynin, NADPH oxidase inhibitors, did not abolish IL-1â-induced ROS formation and GRX-1 expression, whereas budesonide attenuated it.

CONCLUSION: High GRX-1 expression in NP might be a primary defense against chronic inflammatory oxidative stress in nasal mucosa. IL-1â-induced up-regulation of GRX-1 in airway epithelial cells is probably mediated by ROS. Glucocorticoids can regulate IL-1â-induced ROS formation and GRX-1 expression.

ABSTRACT NUMBER: 1659

THE COMPANSATION MECHANISM OF ETHMOID CELL VOLUME IN NASAL SEPTUM DEVIATION

Ahmet Firat, MD, Murat Miman, Yezdan Firat, Hakký Karakas

BACKGROUND: The aim of this study was to evaluate the effect of nasal septal deviation (NSD) on ethmoid cell volume and to determine whether there was any correlation between NSD grade and ethmoid cell volume.

METHODS: Fourtyfive computerized tomography (CT) scans from patients with rhinosinusitis symptoms with NSD were evaluated. Septal deviations were classified into three groups according to the degree of deviation on CT. Ethmoid cells volume were measured and relationship between NSD and ethmoid cell volume was investigated.

RESULTS: There was a moderate but significant negative correlation between the septal deviation angle and the percentage of the ethmoid volumes Total ethmoid cell volume on the ipsilateral side compared with the contralateral side was found to decrease as the degree of NSD increased.

CONCLUSIONS: Nasal septal deviation affects the total ethmoid cell volume of the nasal cavity. The results of our study underline the role of ethmoid cell volume in the compensation mechanism equalizing the nasal cavity airflow changes due to NSD.With this findings, additional ethmoid cell reconstruction may be proposed to enhance the airflow dynamic in both nasal cavity aditional to NSD adjustment.

ABSTRACT NUMBER: 1660

PREEMPTIVE ANALGESIC EFFECT OF RINOEBASTEL AND OLIVE OIL FOR NASAL PACKING REMOVAL

Kun Hee Lee, Hoon Jung, Seung Yup Shin, Sung Wan Kim

OBJECTIVE: The most frequent complaint of patients after septoplasty is severe pain felt during removal of nasal packing placed on the operation. Various methods have been described to decrease pain and to increase patient comfort during removal of nasal packing. However, previous methods are not practical. There has been an increase in the number of studies on preemptive analgesia use for postoperative pain relief. The aim of this study was to evaluate analgesic effect of Rinoebastel(antihistamine and pseudoephedrine) and olive oil during removal of Merocel packs placed in septoplasties.

METHODS: A prospective study was conducted on 45 patients undergoing septoplasty in our hospital. Merocel packing was applied in each side and kept for 2 days post-operatively. The patients were randomly assigned into four groups: control, rinoebastel, olive oil and rinoebastel with olive oil groups. In the rinoebastel group patients received two tablets for two days, In olive group merocel was rehydrated with 30ml olive oil every 6 hours for two days. Visual analog scale (VAS) scores were measured immediately after removal of nasal packing. We compare removed merocel volume among all study groups.

RESULTS: VAS scores immediately after the removal of nasal packs more significantly decreased in the study group than control group ($p < 0.05$). There was no significant difference in VAS values between rinoebastel group and rinoebastel with olive oil group. ($p < 0.005$),but rinoebastel group and rinoebastel with olive oil group show significantly lower VAS values than olive oil group. ($p < 0.05$). There was no significant difference in removed merocel volume among three study groups.

CONCLUSIONS: It can be concluded that olive oli decreases pain during removal of nasal packing placed in septoplasties and rinoebastel can show synergic effect with olive oil for decreasing pain.

ABSTRACT NUMBER: 1661

HISTOLOGIC STUDY OF E-PTFE REMOVED AFTER RHINOPLASTY

Ji Yun Choi, MD

OBJECTIVES: Gore-Tex is known to be a relatively safe material. However, it leads to complications. Although wide use, the reason why complications were occurred is poorly understood. Thus, this study attempted to investigate histological changes of the Gore-Tex removed within a certain period of time after rhinoplasty between the Gore-Tex and its neighboring tissues.

METHODS: This study involved 122 Gore-Tex samples obtained at the time of reoperation in patients who had undergone augmentation rhinoplasty. The subject group included 31 men and 91 women. The mean patient age was 30.2 years, and the mean Gore-Tex implantation period was 23.2 months (range: 1 week to 13 years). We noted the shapes of the Gore-Tex samples, their relationships and extent of adhesion with neighboring tissues, and the changes of thickness. We also observed tissue ingrowth, calcification, inflammation, foreign body reaction, and structural changes using light microscopy and electron microscopy.

RESULTS: After the Gore-Tex samples had been in place for an extended period of time, the neighboring tissues grow into the central portions of the samples, which enhanced adhesions between the samples and the tissues. In addition, Gore-Tex samples that had been implanted for longer periods of time were associated with decreased thickness and calcification, foreign body reactions and structural changes increased.

CONCLUSIONS: In contrast to previous studies, our study showed that Gore-Tex samples implanted in human bodies for extended periods of time prompted ingrowth of neighboring tissues; calcified tissue degeneration, inflammation, and foreign body reactions were found in a large number of samples. The Gore-Tex structures were destroyed and transformed. As a result, it is important to follow the stability of Gore-Tex material on a long-term basis.

ABSTRACT NUMBER: 1667

ISOLATED SPHENOID SINUSITIS

Rafael Hijano, MD, Isabel Homs, Frances Xavier Subirana, Francina Aguilar

INTRODUCTION: Isolated sphenoid sinusitis is an uncommon entity which has a different clinical presentation compared to chronic rhinosinusitis affecting more than one sinus. Different pathogens are commonly involved.

METHODS: 85 years-old female suffering from headache and diplopia. A nasal endoscopy was carried out, showing a white rhinorrea in the superior meatus. Its culture was sterile. A CT scan and an MRI were performed, showing an image of occupation of the entire sphenoid without bony erosion. A surgical procedure was planned after a non-successful medical treatment.

RESULTS: An endoscopic transnasal approach was used to enter the sphenoid. The superior turbinate was used as the critical landmark. After location of the natural ostium, a large enough indentation was created. Purulent content was aspirated, as well as debris removed. Posterior lavage of the sinus was carried out. The results of the cultures were Pseudomona aeruginosa and Aspergillus sp. No complementary antibiotics were used after the procedure. The patient is currently asymptomatic and the CT scan shows a healthy sphenoid with a competent ostium.

CONCLUSIONS: The diagnosis of isolated sphenoid sinusitis may be suspected by unspecific symptoms and supported by radiological imaging, which will be used as a guide during the surgical procedure. When medical treatment fails, an endoscopic transnasal approach is safe and a successful surgical procedure. After the complete removal of debris, the preservation of the natural ostium of the sphenoid seems to have more importance to the total restoration than the microbiological agent causing it.

ABSTRACT NUMBER: 1672

CORRELATION BETWEEN SYMPTOM SCORES (SN-2) VERSUS (SN-5) AND CT SCORES IN YOUNG CHILDREN WITH CHRONIC RHINOSINUSITIS

Andrew Terrell, MD, Hassan Ramadan, MD

INTRODUCTION: The SN-5 is a validated symptom score questionnaire for the evaluation of chronic rhinosinusitis (CRS) in children. This study evaluates whether the first two domains of the questionnaire (sinus infection symptoms and nasal obstruction symptoms) correlate more closely with CT scores than when all five domains are combined.

METHODS: Thirty-five patients ages 2-12 were seen prospectively in the office for symptoms of CRS. The mean age was 7.43 years (range 4-12; SD = 2.42 years). The care takers completed the SN-5 during their visit when a CT scan of the paranasal sinuses was obtained. The SN-2 and the SN-5 were then compared to the Lund-MacKay CT score.

RESULTS: The mean SN-2 was 5.11, the mean SN-5 score was 4.07, and the mean CT score was 6.8. There was a significant correlation between the both the SN-2 scores ($r= 0.62$; $p< 0.0001$) and the SN-5 ($r= 0.67$; $p< 0.0001$) scores with the CT scores. The correlation between the SN-2 and CT scores was similar to the SN-5 and CT scores. Comorbidities such as age and allergy did not significantly affect scoring correlations. Asthma did have a significant effect on scoring correlations.

CONCLUSION: Both the SN-2 and SN-5 scores had a positive correlation with CT scores. Children with asthma seem to have a very poor correlation between their SN-5 and the CT score. The ability to correlate subjective symptom questionnaires to objective CT scores is essential in order to evaluate therapeutic interventions while minimizing radiation exposure to the pediatric population.

ABSTRACT NUMBER: 1680

THE EFFECT OF TOTAL NASAL OBSTRUCTION ON NOCTURNAL OXYGEN SATURATION IN AN ASIAN POPULATION

Dr. Chua Dennis, Dr. Siew Sheun Chao, Annabelle Tay

INTRODUCTION: Nasal obstruction influences respiration during sleep and nasal packing may cause nocturnal oxygen desaturation and obstructive sleep apnoea. There have been various studies in the literature on the effect of bilateral nasal packing on nocturnal oxygen desaturation during sleep. The results are conflicting with no definite conclusions. More importantly, there have not been any studies done in an Asian population.

METHODS: A prospective study on 50 Asian patients with bilateral nasal packing admitted overnight was conducted. Their oxygen saturation was checked prior to nasal packing and then continuosly monitored overnight for 12 hours using a pulse oximeter. Significant oxygen desaturation was defined as a decrease in peripheral arterial oxygen saturation to <95%. Various data such as the patient's biodata, Epworth score, types of surgery, types of packs, presence of co-morbidities and the time of oxygen desaturation was collected.

RESULTS: Eighteen percent of our patients had significant deoxygenation <95%, the lowest being 92%. The average Epworth score for the patients who had significant deoxygenation was 8.4 compared with 6.2 for those without significant oxygen desaturation. Body Mass Index was not found to be a significant factor in determining which patients will experience significant oxygen desaturation. Interestingly, none of the patients with oxygen desaturation had any co-morbidities. There was also no relationship of the type of packs used to the presence of significant oxygen desaturation.

CONCLUSIONS: In an Asian population, bilateral nasal packing results in significant oxygen desaturation in only a small proportion of patients. In this group, the lowest oxygen level was still >91%. There are no significant clinical predictors of the type of patients that will experience significant oxygen desaturation. Therefore it is safe to conclude that most Asian patients with bilateral nasal packs can be managed in an outpatient setting without oxygen saturation monitoring.

ABSTRACT NUMBER: 1688

EOSINOPHILIC GRANULOMA OF THE PARANASAL SINUSES & ORBIT

Stephanie Joe, MD, Jasmin Kapoor, MBBS

This case report discusses a rare case of eosinophilic granuloma in a child which presented with headache and decreased vision after blunt head trauma.

INTRODUCTION: Eosinophilic granulomas are benign tumours which tend to affect haemopoietically active bone marrow. It is rare to affect the orbit (approximately 1% of all tumours affecting the orbit). The differential diagnosis includes other tumours and infections.

METHOD: Case report

RESULTS: This child complained of headache and decreased vision. He had a history of blunt head trauma for which the family did not seek medical attention. The child developed medial rotation of his left eye and presented to the physician. CT scans showed extensive sinus disease. An MRI revealed an expansile mass involving the orbital apex, lesser wing of the sphenoid bone, and adjacent paranasal sinuses. He underwent an endoscopic sphenoidectomy with biopsies of the left sphenoid mass. The pathologic impression was of Langerhans cell histiocytosis with optic nerve compression. The following day he began radiation therapy and the tumour responded well. The patient's vision returned and he remained stable over nineteen month follow up.

CONCLUSION: This case illustrates the presentation of an unusual case of vision loss in a child. This case report discusses the differential diagnosis, the diagnosis and management of eosinophilic granuloma in the paranasal sinuses and orbit. This is a diagnosis which should be considered in all presentations of headache and vision changes.

ABSTRACT NUMBER: 1690

CARTILAGE CONTAMINATED ON THE FLOOR: A PROSPECTIVE STUDY

Dr. Kevin Wong, Dr. Bedy Lau, Dr. Philpott Carl, Dr. Amin Javer

INTRODUCTION: Cartilage is utilized frequently for reconstruction of nasal defects during surgery. There is no data examining the consequences of utilizing cartilage dropped on the floor.

OBJECTIVE: 1. Determine if cartilage that has contacted the floor is adequately sterilized by washing in a normal saline solution versus an antibiotic (gentamycin) solution.

METHODS: Cartilage was obtained from 10 consecutive patients undergoing septoplasty. A 1x1cm portion of cartilage was dropped on the operating room floor for 60 seconds. The cartilage was then cut into 4 equal sizes and then divided into the following experimental groups: a) no irrigation b) irrigation with normal saline for 1 minute c) irrigation with gentamicin solution for 1 minute and d) irrigation with gentamicin for 5 minutes. These specimens were then sent for C&S and gram stain. Culture swabs were also taken from the operating room floor and the nasal vestibule.

RESULTS: A total of 11 patients were recruited for this study. 9 of 11 cartilage specimens dropped on the floor cultured positive. Bacteria were also cultured from 8 out of 11 cartilage pieces irrigated with normal saline. No bacteria were cultured from any of the dropped cartilage irrigated with gentamicin for either 1 minute or 5 minutes. Swabs of the floor and nasal cavity were positive in all patients.

CONCLUSION: In the event that cartilage has contacted the floor, we recommend that it not be utilized for the possibility of contamination. If an alternative does not exit, our study demonstrates that contaminated cartilage can be sterilized by irrigating with gentamicin for at least 1 minute if not longer.

ABSTRACT NUMBER: 1691

THE PREVENTIVE EFFECT OF ALLERGIC INFLAMMATION BY ORAL TOLERANCE IN A MOUSE MODEL OF ALLERGIC RHINITIS

Soo Whan Kim, MD, Sung Won Kim, MD, Jin Hee Cho, MD, Jun Myung Kang, MD

OBJECTIVE: Induction of oral tolerance(OT) has been known to prevent allergic inflammation in acute asthma model.The purpose of this study was to investigate preventive effect of oral tolerance and airway remodelling in a mouse model of allergic rhinitis.

METHODS: 5-week-old female BALB/c mice divided into 4 groups-control group,allergic rhinitis group,low dose OT group,and high dose OT group. To induce oral tolerance mice were fed ovalbumin(OVA) before sensitization with OVA and aluminum hydroxide-1mg for 6 consecutive days in the low dose OT group and 25mg once in the high dose OT group. Mice in the allergic rhinitis group were fed phosphate buffered saline instead of OVA. After sensitization followed by repeated challenge with OVA during 6 weeks,enhanced pause(Penh),nasal symptom,IL-13,and IFN-r levels in nasal lavage (NAL) fluids as well as OVA-specific IgE,IgG1,and IgG2a levels in serum were measured. In addition the degree of goblet cell hyperplasia and submucosal thickness were observed from nasal tissue by PAS and Masson\'s trichrome stain.

RESULTS: Both OT groups showed a significant decrease in Penh, inflammatory cells, IL-13, and IFN-r levels in NAL fluids as well as OVA-specific IgE, IgG1, and IgG2a levels in serum compared with the allergic rhinitis group. In addition, the degree of goblet cell hyperplasia and submucosal thickness were significantly attenuated in both OT groups compared with the allergic rhinitis group.

CONCLUSION: These results suggests that induction of OT may effectively prevent allergic inflammation as well as airway remodelling in a mouse model of allergic rhinitis.

ABSTRACT NUMBER: 1692

PARTIAL CRANIALIZATION OF FRONTAL SINUS FRACTURES–A 10 YEAR EXPERIENCE

Terry Shibuya, MD, Paul Schalch, MD

INTRODUCTION: Management of frontal sinus fractures with dural injury, laceration or CSF leak can be very challenging. In selected frontal sinus injuries we have used a partial cranialization technique to explore and repair the dura followed by obliteration of the nasofrontal duct and dead space. This technique has been used to preserve non-injured frontal bone and enhance future protection of the brain/cranium from injury.

OBJECTIVE: This study measures the surgical outcomes of our partial cranialization technique over the past 10 years.

METHOD: 12 patients who have undergone our partial cranialization technique were followed and outcomes were measured using post-op radiograph, incidence of infection, CSF leak, pneumocephalous, cranial nerve V & VII function and cosmetic result.

RESULTS: There were no intra-cranial complications of meningitis, CSF leak or pneumocephalous. All cases had complete obliteration of the frontal sinus dead space. One pt developed superficial wound cellulites, which resolved with antibiotics. There was no change in V & VII function postoperatively. All cosmetic results were excellent.

CONCLUSION: Partial cranialization with frontal sinus obliteration has been used successfully to treat selected frontal sinus injuries for the past 10 years. We believe this technique may be useful for preservation of the non-injured frontal bone and enhance future protection of the brain/cranium.

ABSTRACT NUMBER: 1694

RECRUITMENT OF EOSINOPHILS AND MUCOSAL REMODELING INDUCED BY INTERLEUKIN-17A IN CHRONIC RHINOSINUSITIS WITH NASAL POLYPS ASSOCIATED WITH ASTHMA

Tatsuya Saitoh, Takeshi Kusunoki, Katsuhisa Ikeda

BACKGROUND: IL-17A is a highly inflammatory cytokine with a robust effect on stromal cells in many tissues. Although IL-17A is known to be associated with inflammatory lung disorders by triggering an accumulation of neutrophils, the effect of IL-17A on the upper airway is still uncertain. The expression of IL-17A and its role were investigated in the nasal polyps of chronic rhinosinusitis associated with asthma.

METHODS: IL-17A was detected by immunohistochemistry and quantitative real-time RT-PCR. The cellular source of IL-17A was examined by double staining with EG2, CD4 and neutrophil elastase. The tissue remodeling of the nasal polyps was evaluated by assessing the epithelial damage and basement membrane thickness.

RESULTS: Both the protein and mRNA of IL-17A was significantly detected in the nasal polyps in comparison to control normal sinus mucosa. The localization of IL-17A expression predominantly coincided with eosinophils and CD4-positive lymphocytes. Furthermore, the number of IL-17A positive cells correlated with tissue eosinophils, but not with neutrophils. The degree of epithelial damage and basement membrane thickness was dependent on the number of infiltrated IL-17A positive cells.

CONCLUSION: The present study revealed, for the first time, that IL-17A plays a significant role in the recruitment of eosinophils and the remodeling of the nasal polyps of chronic rhinosinusitis associated with asthma.

ABSTRACT NUMBER: 1695

FUNCTIONAL COOPERATION BETWEEN EPITHELIAL GOBLET CELL SECRETION AND CILIARY ACTIVITY IN THE NOSE.

Atsushi Kamijo, MD, Susumu Terakawa, PHD, Keisuke Masuyama, MD

INTRODUCTION: The mucociliary transport system is a crucial defense mechanism in the airways. This system is dependent on both the ciliary beats and the properties of the periciliary fluid. In the nasal mucosal epithelial surface, there are 2 major types of cells which play an important role in the system, ciliated cells and goblet cells.

METHODS: We used the nasal mucosa of rats and examined the effects of neuropeptides on these 2 types of cells by a video-enhanced microsopic technique. We could observe ciliated cells and epithelial goblet cells on the same preparation simultaneously. The effect on ciliated cells was estimated by measuring the frequency of ciliary beat with a fast Fourier transformation (FFT) analyzer (ciliary actibvity), and the effect on goblet cells was evaluated by counting every exocytotic response in a single goblet cell (secretory activity).

RESULS: SP (1 uM), NKA (1 uM), and VIP (1 uM) stimulated the secretory responses of goblet cells significantly, and also promoted the ciliary activity. Increased secretion of goblet cells by those neuropeptides was simultaneously or a few seconds later when ciliary activity was accelerated. These 2 responses seemed to be functionally cooperative. In contrast, CGRP (1 uM) did not stimulate both secretory and ciliary activity.

CONCLUSION: We showed that neuropeptides in the trigeminal sensory neurons and parasympathetic neurons are involved in regulating both ciliated cells and goblet cells and play an important role in the host defense mechanism in the rat.

ABSTRACT NUMBER: 1703

HOUSE DUST MITE NASAL PROVOCATION IN PERENNIAL ALLERGIC RHINITIS

Supinda Chusakul, Songklot Aeumjaturapat, Chuntima Phannaso, Kornkiat Snidvongs

INTRODUCTION: In perennial allergic rhinitis, skin prick test is the gold standard as diagnostic tool to identify the specific allergens. Nasal provocation is also used to identify relevant allergens. The aims of this study were to evaluate sensitivity and specificity of D. pteronyssinus (Dp) nasal provocation test as a diagnostic tool and also determine the relationship of the changes of symptoms in nasal provocation and the wheal size of skin prick test in house dust mite allergic rhinitis.

METHODS: 105 patients with clinical symptoms of perennial rhinitis underwent skin prick test to inhalant allergens and nasal challenges to Dp allergen. Nasal provocation response was assessed by changes of symptoms (visual analogue score) and peak nasal inspiratory flow (PNIF).

RESULTS: 48 patients had positive skin prick test to Dp, of whom 33 had positive nasal provocation test by increases of symptom score and 20 had positive nasal provocation test by decreases of PNIF. 49 patients had negative skin test to inhalant allergens. The nasal provocation test by symptom score was positive in 7 patients in this group. The sensitivity of nasal provocation was 69% and specificity was 86% using symptom score. By PNIF changes, the sensitivity was 42% and specificity was 84%. There was a significant correlation between wheal size of skin test and the clinical changes of nasal provocation to Dp.

CONCLUSIONS: Nasal provocation is valuable test to confirm the diagnosis of house dust mite allergy and it correlates with the diameter of the skin prick test.

ABSTRACT NUMBER: 1705

NASAL QUALITY OF LIFE BEFORE AND AFTER MINIMALLY INVASIVE PITUITARY SURGERY

Charles Ebert, Jr., MD, Maher Younes, MD, William Leight, MD, Brent Senior, MD

INTRODUCTION: Since the introduction of the endoscope, minimally invasive endoscopic pituitary surgery (MIPS) has revolutionized pituitary surgery. Multiple studies have shown MIPS to be a safe and efficacious marriage of the endoscope to the transsphenoidal approach. Surgical outcomes and complication rates comparable to traditional transsphenoidal approaches have resulted but with less dissection and tissue manipulation, reduced need for packing, and believed greater patient comfort and acceptance. No studies have assessed nasal quality of life before and after MIPS. Our goal was to assess the QoL as it relates to the sinuses and rhinosinusitis in patients having MIPS.

METHODS: Patients having MIPS filled out a validated nasal-specific questionnaire, the Rhinosinusitis Disability index (RSDI). RSDI scores, patient demographics, tumor characteristics surgical outcomes, and intraoperative/postoperative complications were recorded. Data were analyzed using Student\'s t-test to compare the RSDI mean pre-operative and post-operative scores. One-way analysis of variance (ANOVA) compared RSDI scores between different tumour groups.

RESULTS: Thirty-five patients completed the RSDI. There was no significant difference in the preoperative and postoperative scores (p=0.17). There was a trend to improved scores in the post-operative scores. No patients developed acute or chronic rhinosinusitis after MIPS. The length of follow-up ranged between 0.25 years and 7 years.

CONCLUSIONS: Minimally invasive pituitary surgery is safe, efficacious, and results in minimal impairment of nasal-specific quality of life in patients.

ABSTRACT NUMBER: 1707

SURGICAL TREATMENT OF A RECURRENT CLIVAL CHORDOMA THROUGH THE EXPANDED ENDOSCOPIC APPROACH: CASE REPORT

Trimarchi Matteo, MD, Boari Nicola, MD, Bussi Mario, MD, Mortini Pietro, MD

INTRODUCTION: Clival chordomas are rare disembriogenetic tumors. Because of their critical location and invasive nature clival chordomas are challenging tumors to treat. Surgical removal followed by high-dose radiation therapy, particulary proton beam therapy, are effective in tumor control and improve survival rates.

BACKGROUND: Between February 1990 and June 2008, 37 consecutive patients with pathological diagnosis of chordoma were managed by multimodal treatment at the Department of Neurosurgery of San Raffaele Medical Center, Milan, Italy.

CASE REPORT: We report a case of a 69-year-old woman with recurrent clival chordoma. Two previous surgical procedures were performed at other institutions in 1998 and 2006, achieving a partial resection by a microsurgical trans-sphenoidal approach. After second surgery the patient underwent conventional radiotherapy and medical therapy with tyrosin-kinase inhibitor. The patient presented at our Institution complaining of double vision. The neurological evaluation on admission revealed a left partial third cranial nerve palsy. The MRI scan showed a midline extradural tumor of middle-upper clivus with left paraclival extension, bigger than showed by the previous MRI study. The lesion was gross-totally removed by an extended endoscopic endonasal approach, using the transclival module. Histology was diagnostic for chondroid chordoma. Neurological evaluation after surgery revealed improvement of the third cranial nerve palsy. MRI scan performed three months after surgery showed no residual tumor.

CONCLUSIONS: The EEA provides an excellent exposure of the clival and paraclival region from the sella turcica to the foramen magnum, allowing a good visualization and control of critical lateral neurovascular structures.

ABSTRACT NUMBER: 1713

INTRACRANIAL MUCOCELE: AN UNUSUAL COMPLICATION AFTER REPAIR OF AN ANTERIOR SKULL BASE DEFECT

Paul Schalch, MD, Marc Rubinstein, MD, David Keschner, MD,JD

OBJECTIVE: The purpose of this study is to present an intracranial mucocele that developed as an unusual complication after repair of a fovea ethmoidalis CSF leak with a mucosal overlay graft.

STUDY DESIGN: Retrospective review of a case of intracranial mucocele in a patient with previous fovea ethmoidalis injury related to endoscopic sinus surgery. The study was conducted at a University-affiliated institution.

METHODS: A 51 year old female underwent revision endoscopic sinus surgery for recurrent polyposis. A CSF leak from the fovea ethmoidalis on the right side was found intraoperatively. Repair was performed by means of a free inferior turbinate mucosal graft. Two years later, she presented with migraine headaches, right ocular pain and blurry vision. CT and MRI evaluation revealed the presence of an extra-axial right frontal lobe mass, arising from the ethmoid roof. The lesion was found to be hyperintense on T2 and slightly hyperintense on T1.

RESULTS: Through an endoscopic approach, a 2.6x2.4x2.4 cm intracranial mucocele was found and drained. The ensuing defect was then repaired by means of a composite, multi-layer graft.

CONCLUSION: Intracranial mucoceles after repair of CSF leaks and other anterior skull base defects are rare complications that may result from intracranial placement of the mucosal end of the graft or dislodgement/migration of a correctly placed graft. This complication should be kept in mind in patients that develop an intracranial mass after repair of anterior skull base defects.

ABSTRACT NUMBER: 1716

LATERAL SPHENOID RECESS CEREBROSPINAL FLUID LEAKS AND ENCEPHALOCELES: UTILITY OF THE ENDOSCOPIC TRANSPTERYGOID APPROACH

Paul Schalch, MD, Marc Rubinstein, MD, David Keschner, MD,JD

OBJECTIVE: The purpose of this study is to describe our experience with the endoscopic transpterygoid approach to the lateral sphenoid recess for repair of CSF leaks that are difficult to access through a strictly transnasal approach.

STUDY DESIGN: Retrospective review of a case of lateral sphenoid recess CSF leak. The study was conducted at a University-affiliated institution.

METHODS: A 54 year old, obese female presented with profuse, right unilateral CSF rhinorrhea. This patient did not have any history of head trauma or previous sinus surgery. After nasal endoscopy and review of CT and MRI studies, the patient was diagnosed with right lateral and superior sphenoid dehiscence and encephalocele.

RESULTS: Endoscopic, image guidance-assisted repair through an extended transpterygoid approach with lateral recess exposure was performed without complications. A composite graft with both over- and underlay technique was used to repair the defect. Long-term follow-up of this patient has not revealed recurrence of CSF leak or encephalocele.

CONCLUSION: The endoscopic transpterygoid approach to the lateral sphenoid recess is a safe, effective and efficient endoscopic surgical technique for the repair of lateral sphenoid recess CSF leaks that are difficult to approach through a purely transnasal endoscopic approach.

ABSTRACT NUMBER: 1717

DIFFUSE B CELL LYMPHOMA OF THE PTERYGOPALATINE FOSSA, INFRATEMPORAL FOSSA, ORBITAL APEX, AND MECKEL'S CAVE

Mark Domanski, M.D., Neil Tanna, M.D., Ameet Singh, M.D.

INTRODUCTION: The pterygopalatine fossa is an inverted pyramidal space communicating with the nasal cavity, orbital, palate, and infratemporal fossa. Primary lesions of the pterygopalatine fossa are rare. Even more unusual are malignant lymphomas of the pterygopalatine fossa spreading into the paranasal sinuses, orbit and surrounding skull base. Parasthesias in the trigeminal distribution, dental pain, visual symptoms, and obstruction of lacrimal system are only some of the clinical symptomatology.

METHODS: Review of a single case including radiographic, inoperative, and pathologic findings was performed, followed by a discussion of the literature.

RESULTS: An 80 year old female presented with numbness and parathesias in the trigeminal distribution followed by intermittent dull left maxillary dental pain for a period of 2 years. Extensive dental work including a root canal failed to provide pain relief. After intensification of the pain, a CT scan was performed which relieved an extensive soft tissue mass involving the left pterygopalatine fossa, maxillary sinus, orbital apex, and infratemporal fossa. Endoscopic maxillary antrostomy and minimal exposure of the pterygopalatine fossa allowed a biopsy. Pathology revealed a diffuse large B cell lymphoma. Bone marrow biopsy and CT-PET did not show any other site of disease. The patient was started on a rituximab-CHOP (cyclophosphamide, adriamycin, vincristine, prednisone) chemotherapy regimen with improvement of her trigeminal and maxillary pain.

CONCLUSIONS: Malignant lymphomas of the pterygopalatine fossa extending to the nose and paranasal sinuses and skull base are extremely rare. A high clinical suspicion is necessary for timely diagnosis of these lesions.

ABSTRACT NUMBER: 1718

HELICOBACTER PYLORI COLONIZATION AND NASAL POLYPOSIS

Masoud Boroojerdi, MD, Ziba Rahbar, MS, Mohsen Naraghi, MD

INTRODUCTION: Helicobacter pylori (HP) infection is the most prevalent infection all over the world. It is found to be associated with chronic inflammatory diseases such as gastric cancer, lymphoma and rhinosinusitis. Also, gastroesophageal reflux to the aero digestive system is reported to cause mucosal inflammation which may have potential to result in some chronic inflammatory assaults such as nasal polyposis.

OBJECTIVE: To investigate the prevalence of HP in the nasal polyposis and to correlate it with the severity of polyposis.

METHODS: Patients diagnosed with nasal polyposis who had not used antacids since 4 weeks before functional endoscopic sinus surgery (FESS), referred to ENT referral hospital were enrolled. HP was investigated in nasal polyp biopsies, using rapid urease testing. CT scans were graded according to the Lund-MacKay scoring system to evaluate the severity of polyposis. Gastrointestinal symptoms and treatments were asked.

RESULT: RUT was positive for 7 (37%) of 19 enrolled patients. Only two patients reported dyspepsia, one had also HP in gastric biopsy. The mean Lund-MacKay score ($P = 0.42$) and clinical scores ($P = 0.97$) were not related to the presence of HP.

CONCLUSIONS: HP may exist in the nasal mucosa of some patients with nasal polyposis. However, no significant correlation between the severity of polyposis and intranasal HP colonization was detected.

ABSTRACT NUMBER: 1719

JUVENILE NASAL ANGIOFIBROMA IN ELDERLY

Giulia Tenti, MD, Vittorio Sciarretta, MD, Ernesto Pasquini, MD

PURPOSE: We report a rare case of Juvenile Nasal Angiofibroma(JNA)in a 62 years old man. The radiologic features and surgical approach are discussed. More over a review of the literature about different theories of genesis of JNA and the efficacy of endoscopic transnasal technique are debated.

MATERIALS AND METHODS: A 62 years old man complaining of nasal obstruction presented endoscopically with unilateral nasopharinx papillomatous-like mass. MRI was not diagnostic for a vascular or malignant lesion. An endoscopic subperiostal centripetal technique were adopted to perform a sphenoetmoidotomy with wide middle meatotomy. Thanks to the endoscopic angled view was observed the lesion invaded the pterygopalatine fossa. Therefore the sphenopalatine process and the pteryghoid plate were drilled out and the mass of maxillary were removed. Histological exam was diagnostic for JNA.

RESULTS: No signs of recurrence were observed after 22 months of endoscopic and radiologic follow up. The patience is free of any symptoms.

CONCLUSIONS: The case focalize the attention on considering JNA a possible diagnosis among the different vascular lesion despite the age of presentation. Besides considering the endoscopic approach as the technique of choice for its versatility on converting a functional to more extensive resection.

ABSTRACT NUMBER: 1721

THE USE OF LUND-MACKAY SCORE AS A PREDICTOR OF REVISION ENDOSCOPIC SINUS SURGERY

Matthew Oliverio, M.D., Hassan Ramadan, M.D.

INTRODUCTION: Functional Endoscopic Sinus surgery is a useful procedure for treating patients with chronic rhinosinusitis. Some research indicates this procedure has a twenty percent failure rate. The Lund-Mackay scoring system is useful to determine the severity of sinus disease on CT scan. This study evaluates patients by Initial Lund-Mackay score to determine if a higher initial score indicates that a patient is likely to undergo revision endoscopic sinus surgery.

METHODS: Initial patient Lund-Mackay scores were reviewed retrospectively. Patients with sinonasal carcinoma, cystic fibrosis or immunodeficiency were excluded. All the patients in the study received maximal medical therapy prior to undergoing sinus surgery. The preoperative Lund-Mackay score was assigned by the same reviewer in all cases and all patients had adequate follow up after the initial procedure. Statistical analysis was then used to determine the significance of the Lund-Mackay score in predicting the need for revision sinus surgery.

RESULTS: The patients in this study who underwent revision sinus surgery had a statistically significant higher Lund-Mackay score. Patients who underwent revision surgery had an average lund-mackay score of 15.90 compared to 10.44 for those not undergoing revision surgery. Analyzing this data using the T-Test demonstrated a p-value of less than .0001 which is statistically significant.

CONCLUSIONS: The Lund-Mackay score is a useful clinical tool in evaluating the CT scan of the patient undergoing first time endoscopic sinus surgery. This study illustrated that a high initial score is an indicator that the patient will require revision endoscopic sinus surgery in the future.

ABSTRACT NUMBER: 1723

SINGLE-NUCLEOTIDE POLYMORPHISM IN THE TOLL-LIKE RECEPTOR 4 BETWEEN CHRONIC RHINOSINUSITIS WITH POLYP AND NORMAL CONTROL GROUP

Chan-Soon Park, Assp, Soo-Whan Kim, Joo-Hwan Kim

INTRODUCTION: Although many diverse explanations for the development of CRS have been suggested, its mechanism has not been elucidated until now. But the association between bacterial pathogen and CRS have been mainly studied up to now. Major bacteria found in chronic rhinosinusitis are Staphilococcus aureus, coagulase-negative staphylococcus, and anaerobic and gram-negative bacteria. The initial recognition of these Gram negative bacteria is done by TLR4. Therefore this study aims to investigate the difference of the frequency of single nucleotide polymorphism(SNP) in human TLR4 genes between chronic rhinosinusitis group and normal control group.

METHODS: Patients with chronic rhinosinusitis with polyps and healthy individuals without CRS were prospectively selected for the study, who visited St. Vincent's Hospital from June 2008. For the purpose of SNP assay, 4 ml whole blood was sampled with the bottle coated with EDTA and then transported to laboratory for DNA extraction and thereafter performed direct DNA sequencing.

RESULTS AND CONCLUSIONS: The results showed that the frequency of TLR4 SNP was not largely different between 2 groups but further investigation will be nedded.

ABSTRACT NUMBER: 1730

AIRWAY REMODELING AND EXPRESSION OF YKL-40 IN THE NASAL MUCOSA OF ALLERGIC RHINITIS

Byoung-Joon Baek, M.D.

INTRODUCTION: YKL-40, a member of chitinase-like protein, has been known to be involved in the process of inflammation and tissue remodeling. Nasal airway remodeling appears in allergic rhinitis, but it appears to be far less extensive than in asthma. Although it has been known that the expression of YKL-40 was increased during Th2 type inflammation, its expression in allergic rhinitis has not been investigated. The aims of this study were to characterize nasal airway structural changes in allergic rhinitis and to examine the expression of YKL-40 in patients with allergic rhinitis and in healthy subjects. We also investigated whether the YKL-40 may take part in the process of airway remodeling in allergic rhinitis.

METHODS: Nasal mucosa specimens were obtained from 20 patients with allergic rhinitis and 10 healthy subjects. Using histologic analysis, the following microscopic findings were compared between patients with allergic rhinitis and controls ; goblet cell hyperplasia, submucous gland formation, eosinophil infiltration, lymphocyte infiltration and macrophage infiltration. Immunohistochemical stain was performed for the detection of YKL-40.

RESULTS: The number of eosinophils present within epithelial cells and in the submucosa (6.9±7.7 cells/HPF vs. 1.9±1.7 cells/HPF), and the thickness of basement membrane (11.6±2.7 ìm vs. 2.5 ±1.5 ìm) were significantly elevated in patients with allergic rhinitis as compared with controls ($p<0.05$). The numbers of goblet cells, submucous gland formation, lymphocytes and macrophages present in the submucosa were not significantly different between patients with allergic rhinitis and controls ($p>0.05$). In the majority of patients with allergic rhinitis and controls, YKL-40 staining was seen in subepithelial cells near the basement membrane. Positive correlation was found between the number of YKL-40-positive cells and the thickness of basement membrane($r=0.52$), the number of macrophage($r=0.41$).

CONCLUSIONS: we have shown that YKL-40 was found in increased quantities in patients with allergic rhinitis, in whom the expression of YKL-40 correlated positively with the thickness of the subepithelial basement membrane. Our data suggest that YKL-40 may participates in the process of airway remodeling of allergic rhinitis.

ABSTRACT NUMBER: 1741

A SINGLE BLINDED RANDOMIZED CONTROLLED TRIAL OF GLOVED VERSUS UNGLOVED MEROCEL MIDDLE MEATAL SPACERS FOR ENDOSCOPIC SINUS SURGERY

Nael Shoman, MD, Carl Philpott, MD, Amin Javer, MD

OBJECTIVE: The use of middle meatal spacers (MMS) is common in functional endoscopic sinus surgery (FESS) but the effects on postoperative mucosal healing remain unknown. The type of MMS utilized may result in variable degrees of mucosal damage that could result in adhesions and consequently lateralization of the middle turbinate. The objective of this study was to compare histologic mucosal changes, patient discomfort and bleeding following FESS when a gloved Merocel® sponge versus an ungloved sponge was placed in the middle meatus.

METHODS: 35 consecutive adults undergoing bilateral FESS were randomized and blinded to receive an ungloved Merocel® sponge on one side and Merocel® within a rubber glove finger on the other. Patients completed a pain assessment questionnaire during their first postoperative week. Patients were seen at one week postoperatively for spacer removal during which time a small biopsy was taken from the lateral surface of the middle turbinate on both sides. The samples were sent for histological analysis to assess for mucosal changes.

RESULTS: Histological examination of the turbinate mucosal membrane that was against the rubber gloved Merocel® sponge showed only a minor inflammatory response. Mucosal membrane biopsies from the turbinate laying against the ungloved Merocel® showed significant mucosal inflammatory response, with shortening of the epithelium and ciliary loss. There was no significant difference with regards to postoperative discomfort or bleeding between the two groups (1.1 and 1.07 respectively).

CONCLUSIONS: A rubber gloved Merocel® middle meatal spacer (MMS) is associated with less postoperative mucosal inflammatory response, which may lead to faster healing and lesser chance of adhesions compared to an ungloved Merocel® middle meatal spacer.

ABSTRACT NUMBER: 1743

COMPARISON OF THE SKIN PRICK TEST AND PHADIA IMMUNOCAP AS TOOLS TO DIAGNOSE HOUSE DUST MITE ALLERGY IN ELDERLY PATIENTS

Yong gi Jung, MD, Hyun-jin Cho, MD, Jin-young Min, MD, Hun-jong Dhong, MD

BACKGROUND: When the skin prick test (SPT) and ImmunoCAP assay are performed simultaneously, however, the results do not coincide in some patients. \r\nObjectives: To assess differences in allergic test results according to age group, and to establish appropriate guidelines for diagnosing mite allergy according to age.

METHODS: A total of 692 patients complaining of allergic rhinitis symptoms were enrolled. We divided patients according to age; the mean age was 32 years (range: 8-76). The SPT and ImmunoCAP assays were performed to detect allergies to house dust mites Dermatophagoides pteronyssinus and D. farinae. The association between age and the result of each allergy test were examined, then a cut-off age for proper application of each test was estimated.

RESULTS: 313 (45.3%) were allergic to D. pteronyssinus and 339 (49%) were allergic to D. farinae. Confounding variables were evenly distributed in each age group. ImmunoCAP was useful for all age groups, but SPT showed decreased ratio of positive result for both allergens in older age groups ($p < 0.0001$). The cut-off age for each test with maximal discrimination was 50 years for D. pteronyssinus ($p < 0.0001$) and 30 years for D. farinae ($p < 0.0001$).

CONCLUSIONS: This study is the first to compare the result of allergy tests according to age using true allergens. The allergic reaction to house dust mites varied according to age of the patients. For patients over 30 years of age, the ImmunoCAP is the preferred method for detecting allergy to house dust mites.

ABSTRACT NUMBER: 1744

ANALYZING THE DEVELOPMENT OF THE NASAL SEPTUM WITH USING MAGNETIC RESONANCE IMAGING

Young-Jun Chung, MD, Jeong-Beom Kim, MD

BACKGROUND: There are some reports about septal development such as cadaveric studies or studies using simple x-ray, but there have been no studies based on magnetic resonance imaging (MRI).

OBJECTIVES: This study was designed to evaluate the normal development of the nasal septum using sagittal MR images

MATERIAL & METHODS: Two hundred eighty patients who had their whole nasal septum visualized in the midline sagittal view were selected among 3904 patients who underwent brain MRI from January, 2004 to December, 2006. Parameters such as bony dorsal length, cartilaginous dorsal length, total dorsal length, length of the septal cartilage(SC)-nasal bone(NB) overlap, total septal area, septal cartilage area, proportion of the cartilage area to the total septal area and maximal harvestable cartilage for grafting were calculated using the PACTM program.

RESULTS: All parameters were increased until adolescence; then the bony dorsal length, the cartilage dorsal length, the total dorsal length, the total septal area and the maximal harvestable cartilage for grafting were not changed significantly with age, while the SC-NB overlap length, the septal cartilage area, and proportion of the cartilage area to the total septal area were significantly decreased with age. The SC-NB overlap length was positively correlated with the septal cartilage area and the proportion of the cartilage area

CONCLUSION: Small septal cartilage area and its proportion were significantly correlated with a short overlap length of the septal cartilage under the nasal bone. Septal procedures should be carefully performed in the elderly due to the risk of incurring saddle nose.

ABSTRACT NUMBER: 1746

ULTRA-STRUCTURAL CILIARY EVALUATION IN PRIMARY AND SECONDARY DISKINESIAS

Ricardo Demarco, MD, Fabiana Valera, PhD, Maria Rossato, Wilma Anselmo-Lima, PhD

INTRODUCTION: Primary ciliary diskinesia (PCD) is a genetic disease characterized through a systemic ciliary mobility, especially in upper airways. Specific alterations in ciliary axonems are pathognomonical to the syndrome. Secondary ciliary diskinesia (SCD) is defined to differ to PCD and it is caused by ultra- structural abnormalities observed during or after injuries, as respiratory infections.

METHODS: 21 biopsies from patients with PCD and 15 from patients

with SCD were evaluated. They all had previous diagnosis based on both transmission and scanning electronic microscopy.

RESULTS: The most frequent alterations in SCD were composed cilia, small cilia, changes in peripheral microtubules and alterations in respiratory epithelium. The most frequent changes in PCD were loosen or shortening of dynein arms, absence of central microtubules and displacement in one of the nine peripheral pairs.

CONCLUSIONS: We stress the differences in ultra-structural alterations examined between PCD and SCD, especially to those observed in chronic rhinosinusitis refractory to conventional treatments.

ABSTRACT NUMBER: 1748

CASES OF CHOANAL POLYPS WITH UNUSUAL ORIGINS : PREOPERATIVE ENDOSCOPIC AND CT EVALUATION

Young-Jun Chung, MD, Jeong-Beom Kim, MD

INTRODUCTION: Choanal polyps usually arise from the maxillary sinus. However, choanal polyps originating from unusual site such as sphenoid or ethmoid sinus has occasionally been reported and it may be diagnosed after excision. Preoperative accurate evaluation for the origin of these polyps is very important to prevent possible surgical risks and a recurrence by resecting the sinus component. The origin of choanal polyp could be evaluated by nasal endoscopy and CT preoperatively. In case of sphenochoanal polyp, nasal endoscopic examination reveals that the polyp is between the nasal septum and the middle turbinate. CT scans reveal an unilateral polyp filling the sphenoid sinus and extending through its ostium into the posterior choana with normal aeration of other paranasal sinuses as in our first case. If a large sphenochoanal polyp obstructs the middle meatus and the maxillary antrum become opaque on CT scan, it may be difficult to identify the origin of the polyp. In this situation, finding of the widened natural ostium on CT scans is valuable. In case of ethmochoanal polyp, both anterior and posterior sinus could be the origin. In choanal polyp from posterior sinus, pedicle is between the nasal septum and the middle turbinate like spheno-choanal polyp on nasal endoscopic examination. In choanal polyp from anterior ethmoid sinus which is seen in the middle meatus, it is important to differentiate that from antrochoanal polyp. Therefore, Serial detailed evaluation with CT scans can help identify the origin of polyp in case of ethmochoanal polyp.

METHODS: In this paper, we present four cases of choanal polyps with unusual origin diagnosed preoperatively by nasal endoscopy and CT which enable us to evaluate the origin.

ABSTRACT NUMBER: 1752

OUR EXPERIENCE OF INTRACTABLE FRONTAL SINUS DISEASES

Hirotomo Honma, Takeshi Kusunoki, Toru Yao, Katsuhisa Ikeda

INTRODUCTION: Although endonasal approach of frontal sinus inflammatory disease has been recently established as a minimally invasive surgery, several problems have been encountered. Previous surgery of external frontal surgery or osteogenic inflammatory process of the frontal sinus often causes difficult access to or stenosis of frontal sinus outflow tract.

METHODS: We present our cases of intractable frontal sinus diseases and discuss the surgical approaches.

RESULTS: We experienced 6 cases of frontal sinus inflammatory diseases (4 males and 2 females, 27 to 74 years). Recurrent 4 cases of frontal sinus diseases were performed Draf type II or III drainage with stenting. One case of a primary frontal sinus mucocele with extensive bone destruction was drainaged by Draf type III. One case of several recurrent fontal sinus inflammatory lesion with marked ossification of the frontal sinus outflow tract was operated by obliteration using fatty tissues. All of the cases showed no recurrence after a relatively short follow-up less than 3 years.

CONCLUSIONS: In spite of our experiences of a relatively small numbers and short follow-up, recurrent and extensive lesion of the frontal sinus inflammation may require tailor-made strategy of treatment in both endoscopic and external approach.

ABSTRACT NUMBER: 1753

A CASE OF CHRONIC EOSINOPHILIC LEUKEMIA WITH SINUSITIS AND GRANULATION TISSUE IN THE PHARYNX

Takanori Yamamoto, MD, Atsushi Kamijo, MD, Keisuke Masuyama, MD

INTRODUCTION: Chronic eosinophilic leukemia is a myeloproliferative disease.

METHODS, CASE REPORT: We experienced an extremely rare case of chronic eosinophilic leukemia with granulomatous lesions in her nasal cavity and pharynx. A 23-year-old woman was referred to our hospital in June 2007 with a 1-year history of severe nasal obstruction. She had been diagnosed as sinusitis, however an oral antibiotic treatment failed to resolve her symptoms in other hospital. At fiberscopic examination, granulomatous lesions occupied in her nasal cavity and pharynx. Computed tomographic scan showed opacification of both sides of ethmoid and sphenoid sinuses, as well as soft tissue lesions arising from the nasopharynx to the oropharynx. White blood cell and eosinophil count in her blood was 14000 / ul and 2940 / ul, respectively. PR3-ANCA and MPO-ANCA were negative and total IgE levels in her serum was 73.9 IU/ml. Biopsies of the lesion in the nasal cavity and the pharynx revealed granulation tissue with marked eosinophil infiltration. Based on these findings, we carried out corticosteroid-pulse-therapy, however, eosinophil counts in the blood temporary dropped and increased again. Finally, chromosome analysis identified FIPL1-PDGFRA in her bone marrow, and diagnosis of chronic eosinopilic leukemia was established. Unfortunatly, treatment by imatinib was not effective, and hydroxyurea failed to improve her condision, she died of the disease in one month after the diagnosis. The importance of chromosome analysis and treatment of chronic eosinophilc leukemia will be discussed.

ABSTRACT NUMBER: 1755

SURGICAL OUTCOME OF ENDOSCOPIC DACRYOCYSTORHINOSTOMY ACCORDING TO OBSTRUCTION LEVEL OF LACRIMAL SYSTEM

Woo Shim, MD, Ji Choi, MD

BACKGROUND AND OBJECTIVES: Many factors influence the outcome of endoscopic dacryocystorhinostomy(DCR), but the level of obstruction in the lacrimal drainage system is important prognostic factor. The aims of this report are to evaluate both the frequency of obstruction by anatomical region of lacrimal drainage system on dacryocystography(DCG) and the surgical outcome of endoscopic DCR.

MATERIALS AND METHODS: A retrospective series of 48 patients(60 eyes) diagnosed as acquired lacrimal system obstruction were enrolled. Preoperative evaluation consisted of a standard examination that included conventional DCG and OMU CT. Patients were classified into four groups by obstruction level on DCG. These patients underwent endoscopic endonasal DCR with silicone tube insertion for chronic epiphora. Surgical outcome was evaluated by improvement of subjective symptoms and nasal endoscopy, post-operatively.

RESULTS: Of 60 eyes, the site of obstruction was the common canaliculus in 14 eyes (23.33%), the pathology of lacrimal sac in 13 eyes (21.66%), the duct-sac junction in 13 eyes (31.66%) and nasolacrimal duct(NLD) in 20 eyes (33.33%). The duct-sac junction was treated most successfully (100%), followed by NLD obstruction (90%), common canaliculus obstruction (78.57%) and pathology of lacrimal sac (69.23%)

CONCLUSION: In patients with acquired lacrimal system obstruction, preoperative confirmation of obstruction site through DCG may be helpful to expect patient's prognosis after endoscopic endonasal DCR. And the pathology of lacrimal sac itself may have poorer prognosis than duct-sac junction.

ABSTRACT NUMBER: 1757

CLINICAL STUDY ON CARDIOVASCULAR SAFETY OF THE SECOND GENERATION H1-ANTAGONIST LORATADINE IN TREATMENT OF PERSISTENT ALLERGIC RHINITIS

Lei Cheng, M.D., Ying Liu, M.D.

OBJECTIVE: To evaluate cardiovascular safety of the second generation H1-antagonist loratadine in treatment of patients with allergic rhinitis.

METHODS: A total of 50 patients with persistent allergic rhinitis were enrolled, of which 19 cases (38.0%) had a history of cardiovascular diseases and/or presented abnormal electrocardiogram (ECG) findings without prolonged QT-interval. There were 30 males and 20 females, aged 20 to 88 years (mean, 41.8 years). For all patents, 10 mg loratadine tablet was oral administrated once-daily in duration of 30 days. ECG examinations were carried out both before and after treatment. Affects of cardiovascular of loratadine were determined by the comparison of the two ECGs.

RESULTS: There was no alteration in sinus rhythm in all patients after 30-day administration of loratadine. No statistically significant difference was found in regarding to heart rates, P durations, PR or QRS intervals between the baseline and end-point ECGs (all, P>0.05), as well as no significant prolongation of the QT or QTc corrected for heart rate using Bazett' formula (P>0.05).

CONCLUSIONS: The results demonstrate cardiovascular safety of loratadine, a second generation H1-antagonist, in long-term treatment of allergic rhinitis at routinely recommended dose.

ABSTRACT NUMBER: 1759

SIMULTANEOUS ENDOSCOPIC SINUS SURGERY AND ORGAN TRANSPLANTATION

Tae-Hoon Lee, M.D., Hyun-Ho Park, M.D., Joong-Keun Kwon, M.D., Jeong-Yup Son, M.D.

INTRODUCTION: As the development of organ transplantation medicines, the indication of the transplantation has been getting wider and increased numbers of patients want transplantation. However, the number of the donors is insufficient for the recipients, which result in long waiting period for transplantation. Moreover, it is difficult to predict the time of transplantation, when the donor is a sudden brain death patient. Because of the need for posttrnasplant immunosuppresion period, the recipients should be free of infection preoperatively and it can make them remain on active status on the transplant list. The operation must be performed before the multi-organ failure, thus early operation is recommended.

CONCLUSION: We have conducted the endoscopic sinus surgery with organ transplantation simultaneously to the patients who have solitary unilateral maxillary sinusitis and chronic hepatic failure or chronic renal failure due to some unavoidable circumstances and had successful results in all three cases, and we would like to share our experiences.

ABSTRACT NUMBER: 1770

DHMEQ EFFECT ON ICAM-1, VCAM-1 AND RANTES EXPRESSION IN NASAL POLYPS

Fabiana Valera, PhD, Kazuo Umezawa, PhD, Luiz Tone, PhD, Wilma Anselmo-Lima, PhD

OBJECTIVES: To evaluate the effect of DHMEQ (a NF-êB inhibitor) and/either of fluticasone on nasal polyp fibroblasts, through ICAM-1, VCAM-1 and RANTES expression.

METHODS: 6 nasal polyps were obtained from 6 patients, and their fibroblasts were cultured into 11 flasks: the negative (free of additive) and positive (TNF-alpha 25 ng/ml) controls, as well as TNF-alpha added to DHMEQ, fluticasone or their associations, in 3 different concentrations (1, 10 and 100 nM each). After 24 hours, ICAM-1, VCAM-1 and RANTES expression was evaluated through ELISA and real time-PCR. Nuclear NF-êB was also assessed through ELISA.

RESULTS: TNF-alpha significantly increased both protein and RNA expression for ICAM-1 ($p<0.005$ and $p<0.0005$), VCAM-1 ($p<0.05$ and $p<0.01$) and RANTES ($p<0.05$ for both) when compared to negative control. When either fluticasone or DHMEQ was added to TNF-alpha, there was a significant decrease of VCAM-1, ICAM-1 and RANTES expression. When DHMEQ was associated to fluticasone and TNF-alpha, there was an optimization of each drug efficacy, although it was not statistically significant for the majority of analyzed situations. The same results could be obtained for NF-êB translocation.

CONCLUSIONS: DHMEQ also acts as an anti-inflammatory drug as powerful as fluticasone. Moreover, DHMEQ enhances fluticasone effect on nasal polyp fibroblasts, decreasing ICAM-1, VCAM-1 and RANTES expression at lower concentrations than only with fluticasone exposure. Since the analyzed proteins are pro-inflammatory molecules, the reduction of their expression could presume that there might be a decrease of the inflammatory process on nasal polyps with DHMEQ, either isolated or associated to topical glucocorticoids.

ABSTRACT NUMBER: 1771

EFFECT OF LONG-TERM USE OF INTRANASAL GLUCOCORTICOIDS ON NASAL EPITHELIUM, DENTAL ALVEOLAR BONE, AND ORTHODONTICALLY INDUCED DENTAL MOVEMENT IN RATS.

Danielle Park, Wilma Anselmo-Lima

INTRODUCTION: An orthodontic treatment depends among many factors on bone remodeling. Several hormones, including glicocorticoids, play a key role in bone turnover. Despite the well-known effects of glucocorticoids on bone metabolism the influence of variations in plasmatic concentrations of them on bone resorption and nasal epithelium due to orthodontic treatment remain to be determined.This study aimed at investigating the effect of intranasal glucocorticoids compared to systemic glucocorticoid on nasal epithelium, dental alveolar bone, and orthodontically induced dental movement in rats.

METHODS: Rats were treated daily with intranasal mometasone furoate, intranasal triancionole acetonide and subcutaneous sodium succinil methilprednisona for seven weeks and submitted to orthodontic dental movements for the last seven days of experimentation. An orthodontic device was placed in the incisive and first upper molar with an initial force of 75 g. The contralateral hemiarc was used as untreated control.

RESULTS: Histomorphometric analysis of dental alveolar bone showed that treatments with triancionole and methilprednisona tend to reduce but nonstatistically significant the bone trabeculae areas in both hemiarc irrespective the treatment.

CONCLUSIONS: Treatment with methilprednisona increase the magnitude of dental orthodontic movement while treatments with mometasone and triancionole tend to raise the orthodontic movement. Important morphological modifications of nasal epithelium were observed in rats treated with triancionole.

ABSTRACT NUMBER: 1772

LOW IMMUNOGLOBULINS, COMPLEMENT C4 DEFICIENCIES AND SEX DIFFERENCES IN RHINOSINUSITIS AND NASAL POLYPOSIS

Jari Suvilehto, MD, Marja-Liisa Lokki, M.Sc., Seppo Meri, Prof., Mikko Seppänen, MD

BACKGROUND: Low plasma immunoglobulin G subclass levels and complement factor C4 deficiencies may predispose to severe chronic rhinosinusitis. Chronic rhinosinusitis com-monly leads to operations, but clinically presents differently in females and males.

OBJECTIVE: We analyzed, in patients coming for sinonasal operations, whether frequencies of common defects in immunity differ between sexes in chronic rhinosinusitis and/or nasal poly-posis.

METHODS: The clinical phenotypes, C4 gene copy numbers, levels of C3, C4, immunoglobulins A, M, G, and IgG subclasses were studied in 97 female and 92 male patients coming for endo-scopic operation. Laboratory results were compared with those of sex-matched controls.

RESULTS: Female patients more commonly had symptomatic non-polypotic chronic rhinosi-nusitis and other mucosal infections but less mucosal changes in computed tomography than men. Men frequently had nasal polyposis, rarely with recurrent rhinosinusitis. Total plasma IgA and IgG2 levels were higher in patients than controls. Low IgG1 and IgG3 were equally frequent in both sexes. However, female patients had lower absolute levels of plasma IgG1 and IgG3 than men. In female patients, all C4B deficiencies were more common than in fe-male controls; total C4B deficiency was associated with chronic and recurrent rhinosinusitis together with polyposis. In male patients, serum C3 and C4 levels were higher than in other groups.

CONCLUSION: In patients coming to endoscopic sinus surgery, severe primary antibody defi-ciencies were rare. In females, total C4B deficiency predisposes to all types of rhinosinusitis. Regardless of sex, changes in plasma immunoglobulin profiles suggested an altered cytokine balance in all patients.

ABSTRACT NUMBER: 1773

CLINICAL TRIAL OF LONG TERM CLARITHROMYCIN TREATMENT IN PATIENTS WITH CHRONIC RHINOSINUSITIS: MICROBIOLOGICAL CHANGES AND CLINICAL IMPROVEMENT.

Khashayar Ahmadi, MD, Mozafar Sarafraz, MD, Azar Khosravi, MD

INTRODUCTION: Chronic rhinosinusitis is defined as sinusitis lasting longer than 12 weeks. The purpose of this study was to examine the effect of long-term Clarithromycin treatment of patients with chronic sinusitis who did not respond to sinus surgery and traditional conservative therapy.

METHODS: Thirty nine patients without immunodeficiency and with persistent symptoms of chronic sinusitis after one or several functional endoscopic sinus surgical procedures were included in the study. They had all been treated with systemic steroids and long-term antibiotics other than macrolides. Nasal swabs were performed for microbiological evaluation. All patients were treated with Clarithromycin 500 mg twice daily with other routine medications for chronic rhinosinusitis.

RESULTS: Twenty six patients responded to the treatment (66.6%). There were no significant statistical differences between non-responders and responders in defined parameters at study commencement. After 3 months, in the Visual Analog Scale (VAS) scoring, the most significant change was in nasal obstruction ($p<0.05$). No significant changes were seen in the sense of smell. According to the results of microbiological investigation, Staphylococcus aureus was the most prevalent organism isolated from patients followed by Pseudomonas aureginosa and coagulase negative staphylococcus. At 3 months, there were no S. aureus on cultures.

CONCLUSION: Long-term, macrolide antibiotic therapy could be effective in some surgical failures of chronic sinusitis. The positive cultures did not seem to influence the improvement experienced by the patients. We recommend a minimum treatment period of 3 months to evaluate the efficacy of the treatment.

ABSTRACT NUMBER: 1774

CURRENT THERAPY OF ALLERGIC RHINITIS AND ASSESSMENT AND INCIDENCE OF STEROID PHOBIA IN GERMANY.

Oliver Kaschke, MD, Bernd Tischer, PhD

INTRODUCTION: According to evidence-based guidelines, standard treatment of allergic rhinitis (AR) includes application of topical steroids. Clinical experience indicates that at least some patients are reluctant to steroid use and show decreased adherence to treatment. One of the major reasons is an aversion to steroids in general. The so-called "steroid phobia" is well-known in other allergic diseases. Purpose of the study was first to clarify the current treatment of AR in relation to the knowledge about topical steroid therapy and the sources of information. Second purpose was to estimate the degree of steroid phobia in AR-patients as a cause for topical steroid refusal.

METHOD: In online interviews 406 patients with AR, 201 physicians and 100 retails pharmacists were asked by questionnaires. Information given by the patients about the current medications and the compliance were collected, also the mannerism of physicians prescription. All were asked to describe the emotional reactions to steroid treatment and a topic cortisone treatment, to identify the reasons for a suggested steroid phobia.

RESULTS: Based on the OSNABRÜCK interpretation scale, 64% of the AR patients express steroid phobia. Main reasons why patients refuse steroids or stop using it are concerns about possible side effects and concerns about the agent in general. Healthcare professionals underestimate the true prevalence of steroid phobia.

CONCLUSIONS: Physicians expect that only 32% of the patients have objections to nasal steroids. Results support the thesis that steroid phobia is associated with lack of knowledge about modern steroids.

ABSTRACT NUMBER: 1776

RESORBABLE OSTEOSYNTHESIS IN THE RECONSTRUCTION OF ANTERIOR TABLE FRONTAL SINUS FRACTURES.

Aaron Pearlman, MD, Rita Roure, MD

INTRODUCTION: Fixation of traumatic frontal sinus factures poses a surgical dilemma. Titanium mini plates have been the mainstay in reconstruction of the upper face, but long term complications such as extrusion, infection, and palpation are possible. Resorbable osteosynthesis techniques offer the advantage of temporary fixation for non-load bearing locations and negate the long term risks of extrusion and plate palpation. Poly D, L-lactic acid (PDLLA), a resorbable material, can be constructed into low profile mini plates and pins (KLS Martin, Jacksonville, FL) that retain strength for approximately ten weeks and can be easily molded and shaped intra-operatively. We present a case in which a traumatic anterior table fracture of the frontal sinus was well reduced using PDLLA materials.

METHODS: Case-report

RESULTS: The patient is a 42 year old male who sustained an isolated comminuted left anterior and posterior table fracture of the frontal sinus with an overlying vertical laceration extending from the upper brow to the upper eye lid with no evidence of cerebrospinal fluid leak following an assault. Computed tomography (CT) revealed significant displacement of both the anterior and posterior tables of the frontal sinus. The intersinus septum was intact and the patient underwent unilateral cranialization. Using PDLLA mini plates, the anterior table was restored with normal aesthetic contour to the forehead. CT examination revealed successful reduction at follow-up.

CONCLUSIONS: Successful reduction and fixation of the anterior frontal sinus can be achieved using PDLLA resorbable mini plates and pins with adequate stability and the advantage of easy intra-operative plate molding and shaping.

ABSTRACT NUMBER: 1779

ENDOSCOPIC RESECTION OF SINONASAL GLOMANGIOPERICYTOMA: CASE REPORT

Marta Canas Marques, MD, Marco Alveirinho Simao, MD, Alberto Santos, MD, Maria Ivone Camacho, MD

INTRODUCTION: Glomangiopericytoma (GPC), before termed sinonasal haemangiopericytoma-like tumour is a rare perivascular tumour (<0,5% of all sinonasal neoplasms) which has hybrid origin in glomus body cells and pericyts. Most GPC are benign and simple excision is usually curative, although a local recurrence rate of 18% and few cases of metastasis (2,5%) have been reported.

METHODS: We present a case report of a 55 year old male who had a 4-year history of progressive nasal obstruction and recurrent epistaxis. Rhinoscopy/Contact Endoscopic revealed a large reddish polypoid mass at the level of the superior meatus extending to the posterior part of the nasal cavity and nasopharynx.

RESULTS: Endoscopic resection of the tumour was performed after angiography with embolization. The tumour was connected to the septum with a narrow stalk, it was excised by a small septectomy. The postoperative period was uneventful and the follow-up at 12 months showed no evidence of recurrence.

CONCLUSIONS: Both clinical and imaging findings are not helpful for a conclusive diagnosis; only histology with immunohistochemical study can give the final diagnosis. The endoscopic approach offers better visualization of the site of origin and permits adequate resection even of large tumours. We recommend preoperative angiography with embolization in these tumours as it reduces the perioperative bleeding. Long follow-up by endoscopy is mandatory as the recurrence is possible even after 15 years.

ABSTRACT NUMBER: 1780

A CONTROLLED COMPARISON OF STANDARD TWO-DIMENSIONAL ENDOSCOPY VERSUS THREE-DIMENSIONAL ENDOSCOPY.

Rupali Shah, MD, Mihir Patel, MD, Joshua Surowitz, MD, Adam Zanation, MD

INTRODUCTION/PURPOSE: One of the criticisms of current video systems for minimally invasive endoscopic surgery is that two-dimensional (2-D) images lack depth perception and may impair surgical dissection. Recently, advances have been made to improve visualization with the development of three-dimensional (3-D) visual systems. In order to objectively measure the utility of 3-D endonasal endoscopy, we designed a model with specific tasks to demonstrate any advantages or disadvantages when compared to standard 2-D endoscopy.

METHODS: Fifteen subjects volunteered for the study and were grouped according to endoscopic experience: novices and experts. A training model was constructed to include five tasks- incision manipulation, ring transfer, nerve hook, distance estimation-visual only, and distance estimation- visual and tactile. A standard 2D endoscope and a 3D ste-

reoscopic vision system were tested by each participant.

RESULTS: Of the 15 subjects, 6 (40%) were true novices. Overall, the number of errors committed during any one task was not significant. Novices trended towards more success during the nerve hook task using the 3D system. With tactile feedback versus visualization alone, distance estimation was significantly more accurate; however, there was no difference in accuracy between the systems (2D vs. 3D). Novices preferred the 3D system while experienced endoscopic surgeons disliked the initial learning curve with the new technology.

CONCLUSIONS: There were trends in improvement in novice performance using three-dimensional optics. Tactile feedback used by experienced endoscopic surgeons does enhance 2D performance and may reduce differences that may exist between the 2D and 3D visual systems. Evaluation in the operating room and larger studies are necessary to further clarify advantages of stereoscopic visual systems.

ABSTRACT NUMBER: 1793

INTERNET-BASED SURVEY OF EFFECTIVENESS OF NEILMED NASOGEL, A SODIUM HYALURONATE-BASED NASAL LUBRICATING GEL.

Martin Desrosiers, MD

RATIONALE: Nasal dryness characterises multiple nasal disorders and causes discomfort in afflicted individuals and interfering with nasal defences against colds and sinusitis. Nasal gels compensate by delivering moisture locally in a viscous formulation. NeilMed NasoGel is an innovative nasal gel which contains 1% sodium-hyaluronate for superior moisturizing characteristics.

PURPOSE: We wished to assess end-user responses on the effectiveness of NeilMed NasoGel for the management of nasal dryness.

METHOD: 260 individuals having purchased NeilMed NasoGel via the Internet were contacted and invited to complete an internet-based survey. 165 individuals responded to a series of questions relating to attributes of NeilMed NasoGel, an innovative sodium hyaluronate-based nasal gel.

RESULTS: 85% of respondents rated NasoGel as good or better, with 54% rating it 'excellent'. 94% noted an improvement in their nasal dryness, 80 % moderately or better. 52% noted a reduction in colds or sinus infections with use. 22% reported a reduction or stopping in use of other medications. 77% reported duration of 3 hours or more, while 15% reported duration of 2 hours. 24% use the product DIE, 25% BID, and 48% on a PRN basis. 11% reported side effects preventing them from continuing NasoGel use. 67% rated NasoGel as superior to other products they had used before, and 92% would recommend NasoGel to someone else.

CONCLUSION: According to results of this survey, NeilMed NasoGel is an effective and well-tolerated nasal product which relieves nasal dryness and can contribute to reducing cold and sinus infections. Perceived prolonged duration of effect may be secondary to the hyaluronate component.

ABSTRACT NUMBER: 1795

MAXILLARY AMELOBLASTOMA

Jayme Dowdall, MD, David Hackenson, Michael Hoa, MD, Robert Robert Mathog, MD

INTRODUCTION: 19 year old experienced a two-month history of a lump in her left cheek. Imaging demonstrated a 4.6 x 3.9 x 5.0 cm mass lesion occupying the left maxillary sinus and extending into the left anterior ethmoid air cells with involvement of the left orbital floor. Biopsy consistent with ameloblastoma. Left total maxillectomy, ethmoidectomy, sphenoidectomy, partial palatectomy and dacrocystorhinostomy. Reconstruction was performed with a temporalis facia sling, split thickness skin graft and custom palatal obturator.

METHODS: Case report including review of imaging studies, pathology and perioperative photography; literature review of reconstructive options.

RESULTS: Patient was found to have clean margins and is satisfied with her facial appearance after aggressive surgical management.

CONCLUSIONS: Ameloblastoma is an uncommon benign tumor of enamel organ accounting for 1% of tumors of the mandible and maxilla. Though typically benign, these tumors often exhibit locally invasive, destructive behavior. Maxillary ameloblastomas account for only one in five cases of osseous (central) ameloblastomas. The delicate bony structure of the midface and nasal structures permit rapid and extensive growth, as is seen in this case. Surgical treatment must be correspondingly aggressive. Historically conservative treatment included enucleation and curettage. Secondary to high recurrence rates with conservative methods, radical approaches including composite resection continue to be utilized. Multiple reconstructive approaches may be employed including temporalis sling with skin grafting, palatal obturator placement and microvascular free tissue transfer. We suggest aggressive surgical approaches may continue to be performed with satisfactory cosmetic and functional outcomes.

ABSTRACT NUMBER: 1796

PRESENCE OF MICROABSCESSES IN THE EPITHELIUM OF NASAL POLYPS IN PATIENTS WITH CYSTIC FIBROSIS

Vijay Ramakrishnan, MD, Todd Kingdom, MD

INTRODUCTION: Chronic rhinosinusitis with nasal polyps in patients with cystic fibrosis (CF) is known to be molecularly and phenotypically unique from disease in patients without CF. Known histologic findings in CF polyps include: lack of tissue eosinophilia, degranulated mast cells, presence of an apical mucus blanket, and thinning of the basement membrane. It has been our anecdotal experience that intraepithelial microabscess formation is also a unique histologic finding in CF polyps, and has not yet been described.

METHODS: Archived surgical specimens of nasal polyps from 5 patients with CF and 8 patients without CF were stained with hematoxylin and eosin and examined under light microscopy for the presence of intraepithelial microabscesses. Results of bacterial and fungal cultures taken at the time of surgery were reviewed.

RESULTS: Intraepithelial microabscesses were seen in 4/5 (80%) of CF specimens and 0/8 (0%) of non-CF specimens. Epithelial intracytoplasmic vacuoles and neutrophil presence are associated findings. A two-tailed Fisher's exact test demonstrates statistical significance ($p=0.007$). Of the four patients with microabscesses, three had cultures positive for P. aeruginosa and two positive for S. aureus.

CONCLUSIONS: Microabscesses and associated histologic findings are frequently present in the epithelial layer of nasal polyps in patients with cystic fibrosis. This finding is not present in nasal polyps of patients without cystic fibrosis. Many pathophysiologic and potentially therapeutic questions can be raised for future investigation.

ABSTRACT NUMBER: 1799

THE USE OF AN ILLUMINATED GUIDE WIRE AND SINUS BALLOON CATHETER FOR ASSISTED REDUCTION OF ANTERIOR TABLE FRONTAL SINUS FRACTURE WITH FRONTAL RECESS INVOLVEMENT – A CASE REPORT.

Macario Camacho, MD, Jeffrey Cutler, MD, Christopher Cote, MD, Andrew Battiata, MD

INTRODUCTION: A 19 year-old sustained a frontal sinus fracture after head trauma, involving the right anterior table of the frontal sinus with involvement of the frontal recess. This paper describes the novel use of illuminated guide wire and sinus balloon catheter for widening the fractured frontal recess and assisting in anterior table reduction.

METHODS: Under endoscopic visualization, an illuminated guide wire was used to access the right frontal recess. Fluoroscopy was utilized for placement because the fracture involved the frontal recess. A 7-mm balloon was inserted into the distal frontal recess. Dilation of the distal frontal recess was necessary prior to full insertion of the illuminated guide wire. Both light visualization through the anterior table and fluoroscopy confirmed proper location. Full frontal recess dilation was achieved, reducing small fragments. The anterior table was partially reduced. An endoscopic brow-lift technique was utilized to attempt full reduction of the anterior table. Due to multiple fragments, complete restoration of the anterior table was unsuccessful. A bi-coronal approach was utilized for complete anterior table repair. Fractures were plated with resorbable plates.

RESULTS: The patient's anterior table and frontal recess fractures were successfully repaired using a combination of endoscopic sinus balloon osteal dilation and open bi-coronal frontal sinus reduction with resorbable plates. 6-month scans demonstrate full aeration of the frontal sinus and a patent frontal recess. Cosmetic appearance was without obvious external contour defect.

CONCLUSION: An illuminated guide-wire and sinus balloon catheter can assist in repairing anterior table frontal sinus fractures with frontal recess involvement.

ABSTRACT NUMBER: 1813

REVISION SINUS SURGERY FOLLOWING BALLOON SINUPLASTY FAILURE

Roy Thomas, M.D., Winston Vaughan, M.D.

INTRODUCTION: Balloon catheters are an emerging new technology in management of chronic sinus disease. Safety and efficacy have been shown in previous studies, however as with many new techniques, data on long term success is still being gathered. This study assesses the failure rate of balloon catheters used in endoscopic dilatation of the paranasal sinuses in a tertiary sinus practice.

METHODS: All cases performed by a single rhinology practice as part of the multi-site Clinical Evaluation to Confirm Safety and Efficacy of Sinuplasty in the Paranasal Sinuses (CLEAR) study were reviewed. Information on site of dilation, failure, and average time of follow up were collected. In cases where revision was required, operative reports were examined to determine factors involved.

RESULTS: A total of 14 patients were identified, with 25 separate sinuses being treated with balloon sinuplasty. There were no major adverse events associated with use of balloon catheters. The revision rate was 8% (2/25) with both revised sinuses being maxillary sinuses. Average follow-up was 22.29 months.

CONCLUSIONS: Balloon catheter dilatation of the paranasal sinuses is a safe, effective means of performing sinus surgery with a low revision rate. Both revisions involved the maxillary sinus. This is likely due to the position of the natural ostium and its relationship to the uncinate process. To decrease the chances of failure and subsequent revision it is recommended that the location of the natural ostium be confirmed by visualization with angled telescopes.

ABSTRACT NUMBER: 1817

REDUCING NASAL MORBIDITY AFTER SKULL BASE RECONSTRUCTION WITH THE NASOSEPTAL FLAP: FREE MIDDLE TURBINATE MUCOSAL GRAFTS.

William Leight, MD, Adam Zanation, MD

INTRODUCTION: Expanded Endonasal Approaches (EEA) to the ventral skull base are increasingly common. The nasoseptal flap has become the standard in our practice for reconstruction. It provides hearty, vascularized tissue for reconstruction along the entire anterior ventral skull base. Although an excellent material for reconstruction, its harvest produces significant donor site morbidity due to exposed cartilage on the nasal septum. The process of remucosalization of the septum takes 6-12 weeks and requires multiple debridements and patient cooperation with frequent saline rinses and sprays. EEA often requires a large nasal corridor which usually necessitates removal of one or rarely both middle turbinates. The present study addresses the reduction of nasal morbidity by providing early remucosalization with free mucosal grafts from a previously harvested middle turbinate.

METHODS: Three patients undergoing EEA for benign lesions of the ventral skull base were enrolled, the donor site healing was compared with nasoseptal flap patients without free grafts. At the end of each case, sacrificed middle turbinate mucosa was harvested and placed as a free mucosal graft on the anterior exposed septal cartilage. This was then splinted for 3 weeks.

RESULTS: At the end of 3 weeks, all patients exhibited remucosalization rates of 50-70%. By 6 weeks, all patients were completely remucosalized. The 3 and 6 week mucosalization rates are significantly higher than those without free grafts. Preoperative and postoperative SNOT-20 scores were unchanged in all 3 patients.

CONCLUSIONS: The nasoseptal flap is quickly becoming the standard of care for skull base reconstruction; however, donor morbidity is not insignificant. It is possible to reduce the short-term nasal morbidity of the nasoseptal flap by reusing mucosa from already sacrificed middle turbinate.

ABSTRACT NUMBER: 1820

CHRONIC RHINOSINUSITIS MUCOSA VERSUS NORMAL SINONASAL MUCOSA: A PROTEOMICS STUDY.

Dr. Armin Deroee, Dr. Mohsen Naraghi, Prof. Werner Hosemann, Dr. Christian Scharf

INTRODUCTION: Despite many studies on chronic rhinosinusitis (CRS), many aspects of this disease are still controversial. CRS is divided to two major groups: CRS with nasal polyposis (CRSwNP) and CRS without NP (CRSsNP). Gene expression and protein biomarkers have recently

gained a lot of attention. As proteins are the final products of genes, comparing the protein structure of sinonasal mucosa in large scale may enable us to detect the processes leading the transformation of normal mucosa to CRS mucosa. In this study we investigated the protein profile of normal sinonasal mucosa with CRSwNP and CRSsNP mucosa.

METHODS: Samples were taken from nasal mucosa of the control group, CRSwNP and CRSsNP patients. Proteins from these samples were extracted and separated by immobilized pH gradient -based two-dimensional difference gel electrophoresis (2-D DIGE). Resulting 2D-gel images were statistically analyzed using Delta2D software and differently expressed protein spots were identified by matrix-assisted laser desorption/ionization time-of-flight mass spectrometry (MALDI-TOF/TOF-MS).

RESULTS: A reference map of approximately 2000 proteins could be established.64 proteins were significantly different (2-fold, $p<0.05$) between CRSwNP and CRSsNP mucosa. Up to now several of these significantly changed proteins could be identified by MALDI-TOF/TOF-MS.

CONCLUSION: Major significantly changed proteins and their biological functions will be discussed regarding the pathogenesis of CRS. Knowing the protein structure of mucosa in normal mucosa and CRS can enlighten the pathways leading to this disease. This can direct us to new ways for CRS treatment.

ABSTRACT NUMBER: 1821

RETROGRADE ENDOSCOPIC DACRYOCYSTORHINOSTOMY AFTER FAILED EXTERNAL DACRYOCYSTORHINOSTOMY.

Kevin McLaughlin, MD

INTRODUCTION: Endoscopic DCR after failed external DCR can be complicated by severe scarring secondary to the primary procedure. Scarring can preclude successful ventilation of the lacrimal system at the lacrimal sac. A variation on endoscopic DCR is presented where the lacrimal system is cannulated distally within the lacrimal duct and followed in a retrograde fashion to the sac and canaliculi. This alternative technique uses consistent landmarks usually unaffected by external DCR. Video clips of the technique are presented. Causes for persistent lacrimal duct obstruction after external DCR are identified.

METHODS: Case series

RESULTS: From July 2005 to June 2007, 22 patients with persistent nasal lacrimal duct obstruction after failed external DCR underwent endoscopic retrograde DCR. 21(95%) patients had patent lacrimal systems at one year follow-up. One patient required conjunctivodacryocystorhinostomy (CDCR).

CONCLUSIONS: An alternative, technically easier, retrograde approach to endoscopic DCR is presented. Anectdotally, the technique is easier to master by residents. Results are comparable or better than the traditional endoscopic approach.

ABSTRACT NUMBER: 1825

THE ROLE OF ESTROGENS INFLUENTS ON DEVELOPMENT AND TREATMENT OF ALLERGIC RHINITIS.

Prof. Dmitro Zabolotny, Yaremchuk Eduardovna, PhD

INTRODUCTION: Last decades actively develop and the concept according to which influence of sexual steroids are to some extent distributed to a functional condition of all bodies and systems including a respiratory path. Now presence of membrane learning structures and-or endocellular receptors of sexual hormones not only in cells of genitals, but also of some others - for example, for estrogens it is liver, muscles, pancreas, some structures of brain, bone tissue, and also cardiovascular and respiratory systems. Thus in the image, presence of receptors to sexual hormones in bodies of not reproductive sphere proves variety of their biological activity as system regulators of physiological processes at the level of the whole organism. The allergic rhinitis (AR) are wildly spread diseases of nasal cavity and sinuses, which commonly occur in female than in male (2:1).

METHODS: We interrogated 200 women, who suffered AR and revealed signs of hyperestrogenia (80%), such as mastopathya 23 %, before menstrual syndrome 60 %, long-term administration of estrogen's contraceptives 46%.

RESULTS: We used in our treatment not only nasal steroids and antihistamines and special diet with low concentration of phytoestrogens and drugs with antagonistically properties for estrogens (Mastodinon, made by Bionorica company). Compared main recorded their daily nasal and eye symptoms such as sneezing, nasal blockage, rhinorhea, itching, watery eyes, itching of eyes, red eyes, swollen eyes before treatment and after 3 month treatment in main group (20 persons) and control (20 persons) we revealed better results in main group.

CONCLUSIONS: Our data suggested about important role of estrogens in develop of symptoms of AR and possibility of include drugs with antiestrogenic properties for treatment of this pathology.

ABSTRACT NUMBER: 1826

SO CALLED ORGANIZED HEMATOMA OF THE MAXILLARY SINUS– REPORT OF FIVE CASES

Hidenori Yokoi, MD, Tatsuya Saito, MD, Fumihiko Matsumoto, MD, Katsuhisa Ikeda, MD

INTRODUCTION: Organized hematoma of the maxillary sinus is a rare clinical disease. It is a chronic state of fibrous tissue surrounding a hemorrhage. Factors that may predispose to hematoma formation vary, and pathogenesis of the mass is still uncertain.

METHODS: We have treated 5 cases of organized hematoma of the maxillary sinus and herein present the clinical images, while specifically focusing on the histopathological images. The subjects consisted of 2 females and 3 males ranging in age from 19 to 68 years old. All of the patients complained of epistaxis, varying from 2 weeks to 3 years from the onset of symptoms until visiting our hospital. A mass lesion was suspected when viewing the CT images and an organized hematoma was suspected in 4 of the 5 cases when viewing the MRI images.

RESULTS: It was possible to successfully perform curative treatment via endoscopic nasal sinus surgery in all of the cases. Histopathologically, papillary endothelial hyperplasia was suspected in 1 of the 5 cases, and the underlying conditions of hemangioma were suspected in 3 cases, and therefore we examined the vascular proliferation and proliferative activities via immunohistochemical staining.

CONCLUSIONS: Regarding the formation of such organized hematoma, a review of our cases in this study suggests that mainly angiomatoid lesions are encounterd, and bleeding tended to result from some other inflammation. Therefore, the use of anticoagulants or the involvement of hemodialysis, are therefore considered to subsequently cause fibrin deposits, fibrous hyperplasia, and hyaline degeneration.

ABSTRACT NUMBER: 1836

ULTRA-STRUCTURAL CILIARY EVALUATION IN PRIMARY AND SECONDARY DISKINESIAS

Edwin Tamashiro, MD, Wilma Anselmo-Lima, PhD, Fabiana Valera, PhD, Ricardo Demarco, MD

INTRODUCTION: Primary ciliary diskinesia (PCD) is a genetic disease characterized through a systemic ciliary mobility, especially in upper airways. Specific alterations in ciliary axonems are pathognomonical to the syndrome. Secondary ciliary diskinesia (SCD) is defined to differ to PCD and it is caused by ultra- structural abnormalities observed during or after injuries, as respiratory infections.

METHODS: 21 biopsies from patients with PCD and 15 from patients with SCD were evaluated. They all had previous diagnosis based on both transmission and scanning electronic microscopy.

RESULTS: the most frequent alterations in SCD were composed cilia, small cilia, changes in peripheral microtubules and alterations in respiratory epithelium. The most frequent changes in PCD were loosen or shortening of dinein arms, absence of central microtubules and displacement in one of the nine peripheral pairs.

CONCLUSIONS: we stress the differences in ultra-structural alterations examined between PCD and SCD, especially to those observed in chronic rhinosinusitis refractory to conventional treatments.

ABSTRACT NUMBER: 1838

BORRELIOSIS & OBSTRUCTIVE SLEEP APNEA SYNDROME

Dr. Antje Buettner

INTRODUCTION: Borreliosis and Sleep apnea syndromes (SAS) are a common disorders, which are characterized by impaired daytime functioning in various (neuro)psychological and affective domains. The objective of our study was to estimate the relationship between Borreliosis and OSAS.

METHODS: Our study was carried out involving gradually patients with Borreliosis of the Neurological Rehabilitation in Bad Liebenstein. During admission to the clinic, all neurology patients were examined neurologically and neuropsychologically. All test persons must not suffer from any severe psychiatric disorders. In addition the doctor have to fill a special SBAS-Questionnaire at the anamnesis. On the end the patients were screened with MicroMesam (MAP). So far, data have been gathered for 62 patients with Borreliosis (30 male, 32 female; mean age: 54.05„b11.28; Barthel index: 95.42„b13.82) (SBAS-Questionnaire). Of these 51 study participants were screened with MicroMesam (25 male, 26 female; mean age: 54.86„b11.69; Barthel index: 94.80„b14.90); 11 patients refused the screening.

RESULTS: Among the 51 in the study included patients (SBAS-Screening) the prevalence of patients with OSAS was 76.5 % (39), 13.7 % (7) were high risk patients and at 9.8 % (5) patients SBAS could be excluded. Among this patients ca. 1/3 suffered additional under cardiovascular diseases and/or adipositas: 23 under hypertension (37.70 %), 1 under coronary heart disease (1.64 %), 12 unter arrhythmia (19.67 %) und 9 under adipositas (56.18%). 1 Patient (1.64 %) have had a myocardial infarction, 11 (18.03) an apoplex.

CONCLUSIONS: Our data indicates that there is a causal and strong relationship between Borreliosis and OSAS.

ABSTRACT NUMBER: 1839

CLINICAL ANALYSIS OF ENDOSCOPIC TRANSNASAL TRANSSPHENOIDAL SURGERY

Jin Hee Cho, M.D., Chang Hoon Lee, M.D.

OBJECTIVES: Endoscopic transnasal transsphenoidal approach were common approaches to pituitary and sellar area and is used for more than 95% of surgical indications in this region. The objectives of our study is to report efficacy, safety and complication of endoscopic transnasal transsphenoidal surgery.

PATIENTS AND METHODS: We retrospectively reviewed the medical records of 79 patients who had received endoscopic transnasal transsphenoidal surgery to sellar region between june, 2003 to May, 2008. We evauated the effectiveness of endoscopic hypophysectomy by analyzing operative findings, symptoms improvement, hospital days, and complications after surgery.

RESULTS: Forty nonfunctioning pituitary adenomas, 15 prolactine, 6 growth hormone and 1 thyroid stimulating hormone secreting pituitary adenomas, 4 pituitary apoplexys, 5 craniopharyngiomas, 3 chordomas, 3 meningiomas, 1 hemangioma, 1 arachnoid cyst. The average length of hospital day was 13.5 days. Postoperative complications were 5 CSF leak, 7 epistaxis, 8 diabetic inspidus, 1 intracranial hemorrhage, 1 blurred vision and 1 death. Visual symptom was improved in all patients with preoperative visual symptom.

CONCLUSIONS: We suggest that the endoscopic endonasal transsphenoidal surgery is a safe, minimally invasive and efficient surgical technique fir removal of sellar region tumor, providing good visualizing of the operative field, short procedure duration, and minimal postoperative complications.

ABSTRACT NUMBER: 1843

PRIMARY SINONASAL SQUAMOUS CELL CARCINOMA WITH CONTRALATERAL NECK METASTASIS

Dr. Yong Bok Kim, Dr. Tae Hoo Kim, Dr. Dong Jun Choi

INTRODUCTION: Sinonasal malignant tumors comprise less than 1% of all cancers and 3% of all malignant tumors of head and neck, which explains a lack of large series addressing the clinical characteristics and management of these tumors.Neck node metastasis occurs in only about 7 to 15% of malignant tumors compared with other head and neck cancers.

METHODS: Case presentation.

RESULTS: A 90-yr-old woman presented with left palpable neck mass and right nasal mass occupying nasal cavity. Fine needle aspiration biopsy of left neck mass results in metastatic squamous cell carcinoma(SCC). PET/CT shows intense FDG uptake in right nasal cavity with bony invasion. Histopathologic examination of excised lesion in right nasal cavity revealed SCC. We report here on a primary sinonasal SCC with contralateral lymph node metastasis of neck.

ABSTRACT NUMBER: 1845

COMPUTED TOMOGRAPHY RADIATION DOSE REDUCTION FOR COMPUTER-ASSISTED ENDOSCOPIC SINUS SURGERY (CAS-SINUS CT) – AN EXPERIMENTAL STUDY ON HUMAN CADAVER HEADS AND CLINICAL PRAGMATICS.

Dr. Dubach Patrick, Claude Nauer, MD, Eichenberger Adrian, MD, Prof. Marco Caversaccio

INTRODUCTION: Many radiology departments do not distinguish between diagnostic sinus CT and CAS-CT for sinus surgery. Moreover, the radiation dose used varies considerably. We investigated to which extent radiation dose for CAS-Sinus CT could be reduced while still warranting a safe operation.

METHODS: With a GE Light Speedä Scanner, 5 CAS-Sinus CTs with different reduced radiation doses were made of human cadaver heads and compared to CAS-Sinus CTs with the standard dose of 65 mGy. First, we tested whether clinically used surface registration with dose-reduced CAS-CT leads to reduced accuracy of screw fixed anatomical points. Second, 5 surgeons had to reliably identify anatomical landmarks on the basis of the 5 different dose-reduced CAS-CTs with the VectorVisionä system and graded their confidence in the image quality on a scale of 1 to 10.

RESULTS: First, we could not find a difference in accuracy for the technical registration with dose-reduced CAS-Sinus CTs. Second, each of the sinus surgeons managed to promptly identify the anatomical landmarks up to a dose reduction to ~4 mGy at a satisfactory estimated image quality of 9 points.

DISCUSSION: The results of our experiments with cadaver heads show that a reduction in radiation dose for CAS-Sinus CT is compatible with a preservation of technical registration accuracy as well as a with sufficient image quality for standard sinus operations. However, we cannot deduce a universal recommendation for radiation doses to be used in reality from our in vitro findings. Nevertheless, an empirical stepwise dose reduction for CAS-Sinus CT was possible in our clinical practice.

ABSTRACT NUMBER: 1846

ENDOSCOPIC TRANSPTERYGOID INTERVENTION OF MENINGOENCEPHALOCELE

Bing Zhou, MD, Demin Han, MD, Shunjiu Cui, MD, Jialiang Zhang, MD

OBJECTIVE: To report the results of endoscopic transpterygoid intervention of 21 patients with meningoencephalocele and CSF leaks within lateral recess of sphenoid sinus (LRSS). The diagnosis of this congenital disease, operative techniques and their related problems were discussed.

METHODS: 21hospitalized patients with meningoencephalocele and CSF leaks within LRSS were included in this paper. 13 were male and 8 were female, aged from 27 to 58 years old. 2 patients had the histories of intranasal endoscopic repair surgery. The preoperative orientation of CSF leaks and meningoencephalocele depended on CT scan and MRC. Endoscopic transpterygoid intervention and the repair or reconstruction of skull base defects were undertaken under general anesthesia.

RESULTS: All the operations were successful. 17 patients had only one site of defect of skull base, 2 patients had 2 sites and the other 2 patients had 3. Two patients had a postoperative intracranial hypertension and hydrocephalus. 6 patients had a postoperative ipsilateral facial, upper lip and palatal hypesthesia. One of them had a xerophthalmia. All the symptoms above relieved gradually 6 months after operation. No recurrences were observed during 8 to 64months follow up (mean follow up 27.2months).

CONCLUSIONS: Endoscopic transpterygoid intervention for the treatment of meningoencephalocele and CSF leaks within LRSS is a minimally invasive technique and a straightforward approach.

ABSTRACT NUMBER: 1848

A MURINE MODEL OF ALLERGIC RHINITIS WITH SUBLINGUAL IMMUNOTHERAPY

Kaoru Goda, Takaya Yamada, Miki Tongu, Hideyuki Kawauchi, Noriaki Aoi

INTRODUCTION: Sublingual immunotherapy (SLIT) has been considered to be a painless and efficacious therapeutic treatment for allergic rhinitis which is known as type-I allergy of nasal mucosa in a large number of clinical and basic trials. Putative immunological mechanisms of SLIT are induction of neutralizing antibodies with decrease in IgE/IgG4 ratio and/or induction of antigen-specific regulatory T cells, however those remain controversial. Indeed, the amount of allergen needed in SLIT is 50 to 100 times more than that in subcutaneous desensitization.

METHODS: In this study, we constructed an efficient murine model of allergic rhinitis with sublingual immunotherapy, in which mice were sublingually administered with ovalbumin (OVA) followed by intraperitoneal sensitization and nasal challenge of OVA.

RESULTS: Sublingually-treated mice showed significantly decreased allergic responses as well as suppressed Th2 immune responses.

CONCLUSIONS: These results demonstrated the use of our experimental murine model for the elucidation of the mechanism of SLIT in allergic rhinitis.

ABSTRACT NUMBER: 1851

MODERN ASPECTS OF HYPOPHYSES SURGERY

Heier Abdulkerimov, Ksenia Kartashova

INTRODUCTION: Among the intracranial tumors hypophyses adenoma is on the third place by its localization. After typical transcranial operations remains severe transgressions of endocrinological and optical functions, and enough amount of relapses – 17,3% (Samotokin B.A. 1985). At last ten years for extraction of hypophyses adenoma widely spread transnasal mode with using new medical technologies and optical instruments. (Revskoi U.K., 1973; Gofman V.R. et al. 2002; Renn W.H. et al. 1975; Abolirg P.R. et al. 1980)

OBJECTIVE: Application of new diagnostics and treatment algorithms in hypophyses surgery.

MATERIALS AND METHODS: we observe 122 patients with adenoma of hypophyses. Among them 73 women and 49 men in the age of 27 to 57 tears old. Size of the tumor vary from 10,0 × 15,0 mm to 47,0 × 28,0 mm. In all cases we used trans sphenoid mode with endovideoscopic equipment, microscope, micro instruments and electro optical reformer (EOR) “Siemens” During the operation to all patients reconstruction of the upper wall of sphenoidal sinus has been spent, so as the actions directed to normalization of level of intracranial pressure.

RESULTS: No complications in intra and post operation periods were found. All patients were ordered in satisfaction condition.

CONCLUSIONS: using new achievement of medicine, general tactics and post operation treatment with neural surgeons can prevent complications, relapses and lethality.

ABSTRACT NUMBER: 1854

ALLERGEN-SPECIFIC IMMUNOTHERAPY ALTERS THE EXPRESSION OF BTLA, A CO-INHIBITORY MOLECULE, IN ALLERGIC RHINITIS.

Seiichiro Makihara, MD, Mitsuhiro Okano, MD, Takaya Higaki, MD, Kazunori Nishizaki, MD

BACKGROUND: B7/CD28 family co-signaling molecules play a key role in regulating T cell activation and tolerance. Allergen-specific immunotherapy (SIT) alters allergen-specific T cell responses. However, the effect of SIT on the expression of various co-signaling molecules has not been clarified.

OBJECTIVE: We sought to determine whether SIT might affect the expression of three co-inhibitory molecules, PD-1, B7-H1 and BTLA, in Japanese cedar pollinosis (JCP).

METHODS: Peripheral blood mononuclear cells (PBMC) were isolated from JCP patients with that had or had not received SIT. PBMC were cultured in the presence or absence of Cry j 1, after which the cell surface expression of PD-1, B7-H1, and BTLA, as well as IL-5 production, were determined. In addition, the effect of BTLA cross-linking on IL-5 production was examined.

RESULTS: After Cry j 1 stimulation, no significant differences in PD-1 and B7-H1 expression were observed among SIT-treated and untreated patients. BTLA expression was down-regulated in untreated patients after Cry j 1 stimulation and up-regulated in SIT-treated patients. Up-regulation of BTLA in SIT-treated patients was particularly apparent in a CD4+ T cell subset. IL-5 production was clearly reduced among SIT-treated patients, and the observed changes in BTLA expression correlated negatively with IL-5 production. Moreover, immobilization of BTLA suppressed IL-5 production in JCP patients.

CONCLUSION: These results suggest that both IL-5 production and down-regulation of BTLA in response to allergen are inhibited in SIT-treated patients with JCP. BTLA-mediated co-inhibition of IL-5 production may contribute to the regulation of allergen-specific T cell responses in patients receiving immunotherapy.

ABSTRACT NUMBER: 1856

GLUCOCORTICOID EFFECTS ON REGULATORY T CELLS IN NASAL POLYP

Takaya Higaki, Mitsuhiro Okano, Seiichiro Makihara, Kazunori Nishizaki

INTRODUCTION: It is known that glucocorticoids (GCs) display its anti-inflammatory role via "switch on" anti-inflammatory gene expression and/or "switch off" pro-inflammatory gene expression. The production of a large number of cytokines with inflammatory properties is down-regulated by GCs. Recently, several reports suggested that GCs can induce regulatory cytokines such as IL-10 and regulatory T cells such as CD4+CD25+Foxp3+ regulatory T cells (Tregs). Foxp3 mRNA expression in peripheral blood CD4+ cells was increased in patients with bronchial asthma taking GCs. However, little is known whether GCs can induce these regulatory molecules in the upper airway.

METHODS: In the present study, we investigate the effect of GCs on the induction of regulatory cytokines and Tregs in dispersed nasal polyp cells (DNPCs).

RESULTS: Dexamethasone (Dex) did not change the proportion of CD25+Foxp3+ cells in CD4+ cells. In the presence of IL-2, however, Dex dose-dependently induces CD25+Foxp3+ expression, suggesting that IL-2 and Dex synergistically induce Tregs in DNPC. It is reported that both CD4+ and CD8+ T cells in nasal polyps express intracellular IL-2. And we also observed a significant production of IL-2 in DNPC in response to SEB. Thus these results suggest that GCs can induce Tregs in the nasal polyps. Dex induced IL-10 but not TGF-beta production by DNPC. Dex inhibited IL-5, IL-13 and RANTES production by DNPC stimulated with SEB in a dose-dependent manner. Interestingly, neutralization of IL-10 significantly recovered the inhibition induced by the Dex together with IL-2.

CONCLUSIONS: These results suggest that GCs displays an anti-inflammatory effect via inducing Tregs in inflamed tissue containing IL-2.

ABSTRACT NUMBER: 1857

RADIOGRAPHIC IDENTIFICATION OF PERINEURAL INVASION IN NASAL AND PARANASAL SINUS CANCER

Kimberly Lee, MD, Sunita Bhuta, MD, Elliot Abemayor, MD,PhD, Claudia Kirsch, MD

OBJECTIVES: Nasal and paranasal sinus malignancies occur in locations that are close to vital structures, including the brain, orbit, and cranial nerves. Few signs are noted in the early stages which are often minimized as they can be signs of more common and less serious conditions. By the time ominous symptoms arise, these malignancies are advanced. Although perineural invasion (PNI) can be clinically silent, it is critical for patient prognosis as it is associated with poor locoregional control, increased recurrence, and decreased survival. Radiographic imaging can identify PNI prior to the development of clinical symptoms. The purpose of this study is to identify critical radiographic features of perineural invasion which may be identified prior to its clinical development.

METHODS: This study retrospectively reviewed preoperative images of twenty patients with nasal and paranasal sinus malignancies with histopathologically proven PNI. CT, PET-CT and gadolinium-enhanced MRI images were then retrospectively reviewed by a head and neck radiologist and surgeon to assess for findings of PNI.

RESULTS: Important radiographic features identified included loss of fat planes around the nerve, enhancement and nerve thickening, and enlargement of the corresponding neural foramina. Histopathology was used as the gold standard for determining the presence of PNI.

CONCLUSIONS: PNI can be present in asymptomatic patients with nasal and paranasal sinus malignancies; therefore imaging and early identification of PNI is essential for adequate surgical resection, therapeutic treatment planning, and patient prognosis.

ABSTRACT NUMBER: 1858

AN UNUSUAL INTRANASAL MASS: PLEOMORPHIC ADENOMA

Omer Saglam, MD, Ersin Ozturk, MD

A case of pleomorphic adenoma of the nasal septum is herein presented. Computed tomography and magnetic resonance imaging of a 65- year-old woman who presented with nasal obstruction and epistaxis revealed a lobular mass in the right nasal cavity. Histopathologic examination revealed a pleomorphic adenoma. Computed tomography and magnetic resonance imaging findings of this rare neoplasm are discussed.

ABSTRACT NUMBER: 1863

EFFICACY OF CICLESONIDE AQUEOUS NASAL SPRAY FOR TREATMENT OF PERENNIAL ALLERGIC RHINITIS BY BASELINE SEVERITY

John Karafilidis, PhrmD, Paul Chervinsky, MD, Mark Wingertzahn, PhD, Holly Holly Huang, MS

INTRODUCTION: Ciclesonide is available as an aqueous intranasal corticosteroid formulation for treatment of seasonal (≥6 years old) and perennial (≥12 years old) allergic rhinitis (PAR). A post hoc analysis was conducted to assess the long-term efficacy of ciclesonide aqueous nasal spray in improvement of symptoms of PAR in subjects with varying baseline severity.

METHODS: This post hoc analysis consisted of 633 patients (≥12 years) with PAR from a 52-week, double-blind, placebo controlled, multicenter safety trial of ciclesonide (Chervinsky et al, Ann Allergy Asthma Immunol. 2007;99:69-76). This study was designed to evaluate the long-term safety (primary end point) and efficacy of ciclesonide. Patients received ciclesonide 200µg (n=441) or placebo (n=222) QD for 52 weeks. Data was stratified by baseline reflective total nasal symptom score (rTNSS) of <6 and ≥6 (out of a total of 12) and improvement in patient-recorded 24-hour rTNSS score following 52 weeks of ciclesonide treatment was evaluated.

RESULTS: There were 294 patients (ciclesonide, n=191; placebo, n=103) in the <6 baseline rTNSS group and 359 patients (ciclesonide, n=244; placebo, n=115) in the ≥6 baseline rTNSS group. Ciclesonide significantly improved 24-hour rTNSS in the <6 baseline rTNSS group (LS mean change from baseline (-1.14) vs placebo (-0.49): treatment difference, 0.66[p=0.0003] and ≥6 baseline rTNSS group (LS mean change from baseline (-3.21) vs placebo (-2.74): treatment difference, 0.47[p=0.045]).

CONCLUSION: In this post hoc analysis of a long-term safety study which also evaluated efficacy, ciclesonide aqueous nasal spray improved the rTNSS of PAR patients with different baseline severities over 52 weeks.

ABSTRACT NUMBER: 1867

NASAL DERMOID SINUS CYST

Murat Salihoğlu, Omer Saðlam

INTRODUCTION: Nasal Dermoid Sinus Cyst is one of rarely seen congenital anomalies. Nasal Dermoid Sinus Cyst is more prevalant in males and usually diagnosed during childhood. There is a potential risk of intracranial extension, frequently localized extradural. For this reason all patients must undergo radiologic evaluation. Differantial diagnosis should be made with glioma, encephalocell, congenital anomalies, inflamatory lesions, benign and malign tumors. Regardless of intracranial extension treatment choice is total excion. Best surgical method is external rhinoplasty approach with medial crural dissection. In case of intracranial extension craniotomy is added for adequate resection.

METHODS: Case presentation.

RESULTS: Case of this study is 21 years old male without intracranial extension.

CONCLUSION: Nasal Dermoid Sinus Cyst is treated with total excision using external rhinoplasty approach with medial crural dissection.

ABSTRACT NUMBER: 1868

COMPARISON OF FOUR OFFICE–BASED METHOD IN TREATMENT OF INFERIOR TURBINATE HYPERTROPHY, WHAT SHOULD BE FIRST INITIAL TREATMENT

Naruwat Kesornsukhon

OBJECTIVES: To compare the efficacy of submucosal non-temperature-controlled radiofrequency tissue volume reduction (RFTVR) , temperatue-controlled radiofrequency tissue volume reduction (TCRFTVR), submucosal resection with microdebrider (SMRM) , Carbondioxide (CO2) laser ablation in chronic inferior turbinate hypertrophy. We wanted to find out the first line for initial treatment in our CPG.

METHODS: Prospective, randomized, and single-blinded clinical trial between August 2002 and September 2007. 120 symptomatic nasal obstruction patients with inferior turbinate hypertrophy refractory to medical treatment in Samutsakorn Hospital were randomized separated into four group , 30 for each procedure . Visual analogue scale (VAS) , saccharine transport time (STT) , complication were evaluated preoperatively and at 12th week and 6th month postoperatively.

RESULTS: Significant improvement was achieved in VAS scores after all procedures($p<.05$) . STT showed no significant posttreatment variation in comparison of three submucosal method. CO2 laser ablation impaired STT initially more than submucosal method. SMRM were comfortable to do in operation room than OPD. The study suspected RFTVR and TCRFTVR is less invasive , identical results in objective and subjective parameters were observed for both techniques. RFTVR is faster operated than TCRFTVR ($P<.05$) . No serious complication in all method.

CONCLUSION: We choose RFTVR to do as our first initial office - based procedure in treatment for inferior turbinate hypertrophy. The reason are identical result, cheap, no serious complication and faster operation time.

ABSTRACT NUMBER: 1869

THE EFFECT OF ANTERIOR NASAL PACKING WITH AIRWAY TUBES ON PULMONARY FUNCTION FOLLOWING SEPTOPLASTY.

Hanifi Kurtaran, MD, Nebil Ark, MD, Fatih Sadikoglu, MD, Serife Boynukalin, MD

INTRODUCTION: It is well known that nasal packing influences respiratory function and results with hypoxemia and hypocapnia. A "nasopulmonary reflex" has been proposed as the cause of this dysfunction. However to the best of our knowledge there is no study measuring pulmonary function of patients with anterior nasal pack with airway tube. Therefore we aimed to investigate the effects of anterior nasal packing with airway tubes on pulmonary function following septoplasty.

STUDY DESIGN: A prospective, cross-sectional study.

PATIENTS AND METHODS: Fifty patients who were operated for nasal septal deviation between years 2006-2008, were included to our study. Nasal packs with airway tube used for all patients following septoplasty. Pulmonary function tests and PO2 measurements with pulse oximetry were performed preoperatively and in the second postoperative day just before removal of the nasal pack. Forced Vital Capacity (FVC), Forced Expiratory Volume in 1. Second (FEV1), FEV1/FVC (FEV1%), Forced Expiratory Flow (FEF25-75%), and PO2 values were compared.

RESULTS: The mean age of study population was 35,3±12.6 years (range:18-64). There was no significant differences found regarding; FVC (4.2±0.9 vs. 4.1±0.9), FEV (3.5±0.8 vs. 3.5±0.9), FEV1% (85.3±9.3 vs. 83,6±10,7), FEF25-75% (4.1±1.5 vs. 4.0±1.6), PO2 (98.3±0.8 vs. 98.2±0.5) between preoperative and in the second postoperative day just before removal of the nasal pack. (p>0.05).

CONCLUSION: The results indicate that anterior nasal packing with airway tubes is not a cause for respiratory dysfunction and hypoxia.

ABSTRACT NUMBER: 1872

THE ENDOSCOPIC APPROACH OF INVERTED PAPILLOMA - OUR EXPERIENCE ON 94 CASES

Vlad Budu, MD. P.

INTRODUCTION: Inverted papilloma is the most common sinonasal tumor with a high risk of recurrence and malignancy transformation.

METHODOLOGY: We performed a retrospective analysis on the endoscopic approach of the inverted papilloma in the last 10 yearsat the ENT Institute, Bucharest.

RESULTS: We performed a videofibroscopy and a CT scan to every patient selected for this study with indication for endoscopic surgery (KROUSE stage I , II and III. The study groupconsisted of 71 male and 23 female patients with a mean age of 45. We performed endoscopic tumor removal and a long-term follow-up. Recurrence rate was 11% and malignancy transformation was 4%.

CONCLUSIONS: Endoscopic approach has a good surgical outcome and an increasing long term result in selected case of inverted papilloma, but this pathology remains a never ending challenge for the rhinologist.

ABSTRACT NUMBER: 1873

IS THERE ANY RELATIONSHIP BETWEEN NASAL POLYPOSIS AND ABO BLOOD GROUPS?

Nebil Ark, MD, Hanifi Kurtaran, MD, Gultekin Kizilbulut, MD, Turker Yilmaz, MD

INTRODUCTION: It is well known that blood group antigens are related to the development of some diseases such as oral carcinoma, peptic ulcer and gastric carcinoma. However to the best of our knowledge there is no study in the literature analyzing the relationship between blood group antigens and nasal polyposis. Therefore we performed this study to determine the relationship between nasal polyposis and ABO blood groups.

STUDY DESIGN: A prospective, cross-sectional study.

PATIENTS AND METHODS: One hundred forty four patients underwent nasal surgery (64 with nasal polyposis and 80 septorhinoplasty) between years 2006-2008 were enrolled in the study. Demographic data recorded for each patient included age and gender. ABO/Rhesus blood group antigen typing was performed.

RESULTS: The mean age of study population was 33.8±13.6 years (range: 15-73). Prevalence of blood groups in the nasal polyposis group were A 42% (27), B 12.5%(8), AB 7.8%(5), O 37.5%(24) and in the septorhinoplasty group were A 45% (36), B 13.8%(11), AB 3.8%(3), O 37.5%(30). There were no significant reltionship found regarding ABO blood groups and nasal polyposis. (p>0.05)

CONCLUSION: The results of this study demonstrate that ABO blood groups are not related with development of nasal polyposis. However further studies with a bigger patient population needed for a better understanding of the relationship.

ABSTRACT NUMBER: 1875

EFFECTS OF PARENTERAL CORTICOSTEROID ADMINISTRATION ON PERIORBITAL EDEMA AND ECCHYMOSIS AFTER SEPTORHINOPLASTY

Guven Yildirim, MD, Yavuz Atar, MD

INTRODUCTION: Ecchymosis occuring after septorhinoplasty operation is an annoying complication for patients although they are informed preoperatively. It may cause mistrust between patient and physician. We aimed to investigate effects of preoperative administration of single type and combined corticosteroid on periorbital edema and echymosis after open technique septorhinoplasty.

METHODS: This study is an analysis of 75 patients who had underwent open technique septorhinoplasty. All patients were performed bilateral osteotomy and hump resection. We divided patients into five groups. First group was received 250 mg methylprednisolone intravenously, second group was received 8 mg dexamethasone intravenously, third group was received 250 mg methylprednisolone and intramuscular betamethasone , fourth group was received intravenous 8 mg dexamethasone and intramuscular betametasone. Corticosteroid administrations were performed 15 minutes before beginning of surgical procedures. Fifth group was control group so patients didn't have corticosteroid administration. All patients were graded for ecchymosis and periorbital edema on 2nd, 5th and 7th days according to a scale between 0 to 4.

RESULTS: When we evaluated the groups on the second day, edema and ecchimosis were significantly lower in the fourth and third groups than the other three groups. Results on the fifth day were similiar to

second day. There were no significant difference between groups on the 7th day except control group.

CONCLUSION: Preoperative administration of betametasone combined with methylprednisolone or dexamethasone decreased postoperative periorbital edema and ecchymosis more effectively than administration of metyhlprednisolone or dexamethasone alone.

ABSTRACT NUMBER: 1876

NASAL MUCOSA HISTOLOGICAL FEATURES OF BONE MARROW TRANSPLANTATION PATIENTS AND GRAFT VERSUS HOST DISEASE.

Erica Ortiz, MD, Eulalia Sakano, Phd, Luciana Meirelles, PhD, Carlos Chone, PhD

INTRUDUCTION: the Bone marrow transplantation (BMT) has often been performed nowadays. Immunosuppression is the leading cause of recurrent sinus infection in Bone Marrow Transplantation (BMT). High frequency of sinusitis in BMT and chronic graft versus host disease (GVHD) patients is often observed. It is a graft donor lymphocytes reaction against the HLA antigens receptors in the cell membrane of host tissues. The GVHD has multifactorial features that are not yet completely understood and its diagnosis is based on histological, immunological and clinical aspects. However, there are no descriptions of nasal histological features in BMT and chronic GVHD. Only the oral mucosa, lung ciliar epithelium and intestinal mucosa have specific histological descriptions related to BMT and GVHD on the literature. Objective: to verify the histological and ultrastructural aspects of nasal mucosa of BMT and chronic GVHD patients so that the cause of increased rhinossinusitis frequency is understood, mainly in chronic GVHD.

METHODS: histological evaluation of uncinate process from 24 BMT patients between 19 and 64 years-old was performed by light microscopy and transmission electron microscopy. The optic features were: intraepithelial lymphocytes and eosinophils, Globet cells concentration, apoptotic bodies, inflammatory infiltrated, edema and fibrosis. The ultrastructural features were cilia structure and orientation, mitochondria quantity alterations, microvilli, cytoplasm vacuolization and Globet cells. The minimum BMT period was 15 days and the maximum, 11 years. Nineteen patients have chronic GVHD and five do not.

RESULTS: the mononuclear cells, lymphocytes and platelets counting weren't significant. There were no difference on rhinusinusitis occurrence between BMT and chronic GVHD (70-80% had rhinusinusitis). However, all BMT patients with rhinusinusitis have significant loss or absence of cilia (P=0,018). Related to optic microscopy, only the apoptotic bodies were increased in nasal epithelium from chronic GVHD (P=0,04). The lymphocyte inflammatory infiltrated was predominant in both groups (77-100%), but there was no statistical significance. Only the Globet cells were significantly decreased in chronic GVHD on the electron microscopy. There were ultrastructural cilliary abnormalities in both groups: compound cilia, triple central microtubules and internal dinein abscence.

CONCLUSION: BMT patients have loss and/or absence of cilia on the sinonasal mucosa. The increase of apoptotic bodies and the decrease of Globet cels were the unique sinunasal mucosa features in chronic GVHD patients. The lymphocyte inflammatory infiltrated was not increased as expected in chronic GVHD, disaccording with literature. BMT and GVHD may have gradual structural modifications on the nasal mucosa and may trigger sinusitis recurrence.

ABSTRACT NUMBER: 1877

PRESENTATION AND SEVERITY OF BENIGN SINONASAL DISEASE IN PATIENTS WITH CHRONIC IMMUNODEFICIENCY

Edward McCoul, MD, Krishnamurthi Sundaram, MD

OBJECTIVES: 1. To establish the relative severity of chronic inflammatory sinonasal disease in patients with comorbid immunodeficiency states. 2. To identify anatomic factors that may contribute to disease severity in this patient population.

STUDY DESIGN: Retrospective cohort study.

METHODS: The study group included patients with chronic rhinosinusitis and a chronic immunodeficiency state that were treated at a public hospital between 2001 and 2008. Comorbidities of interest included human immunodeficiency virus (HIV) infection, sickle cell disease (SCD) and diabetes mellitus (DM). All patients had sinus CT scans, which were reviewed and graded according to the Lund-McKay and Kennedy staging systems. A control group of randomly-selected immunocompetent patients with chronic sinonasal disease was used for comparison.

RESULTS: One hundred five patients with immunodeficiency and 67 control patients were included for study. CT severity scores were significantly higher for patients with DM, SCD, or HIV compared with controls. However, there was no difference in recorded symptom frequency between the groups. Nasal polyposis was associated with more severe disease and found more frequently in patients with comorbid conditions. Conversely, surgical management was more frequent in the control group. Adenoid enlargement was more frequent in patients with HIV compared with controls, whereas septal deviation, turbinate hypertrophy, and concha bullosa were equally present in both groups.

CONCLUSIONS: Patients with comorbid conditions that affect the immune system may be at risk for more severe manifestations of chronic rhinosinusitis. Despite this risk, they are more often treated nonsurgically. These findings suggest that patients with HIV, SCD or DM should be considered for earlier or more aggressive surgical treatment.

ABSTRACT NUMBER: 1882

EXPERIENCE WITH CONGENITAL ANOSMIA AT THE UCONN TASTE AND SMELL CENTER

Yvonne Richardson, MD, Denis Lafreniere, MD

INTRODUCTION: Congenital anosmia is a rare disorder. Its association with Kallmann syndrome and other developmental abnormalities has been well described. Less is available in the literature on congenital anosmia as an isolated phenomenon.

METHODS: To identify common elements of isolated congenital anosmia, a retrospective chart review was conducted for all patients evaluated at the University of Connecticut Taste and Smell Center between January 2006 and January 2009 with the presumptive diagnosis of congenital anosmia.

RESULTS: Features of the history including age at which anosmia was first noticed, how it was noticed, history of trauma, and, if applicable, history of development of secondary sexual characteristics were extracted from the charts. Results of chemosensory smell and taste testing were also recorded, as well as any abnormalities on thorough physical exam. If available, CT and MRI results were examined, paying particular attention to presence of sinus disease and olfactory bulbs. Workup and management is discussed.