



Reader Digest

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Introduction

This newsletter is intended to provide information that is useful to the student and specialist in the field of rhinology and allergic disorders.

The selected recent material represents important fundamental knowledge, current trends or recent developments in this field.

We hope that this newsletter will help the reader have a greater understanding of rhinology and allergic disorders

1. Innovations in Endonasal Sinus Surgery in Children.

[Shay SG1, Valika T2, Chun R3, Rastatter J4.](#)

Abstract

Although there have been many advances in new tools and procedures for endonasal sinus surgery in children, the management and care for pediatric chronic rhinosinusitis has remained relatively unchanged. However, there have been advances in skull base surgery and tumor removal and new knowledge about perioperative concerns in children. This article discusses the role and risks of endoscopic sinus surgery, the use of balloon sinuplasty in children, management of complicated rhinosinusitis, and advances in skull base tumors and choanal atresia repair

Otolaryngol Clin North Am. 2019 Oct;52(5):875-890

2. Our Treatment Approach in Pediatric Maxillofacial Traumas.

[Bilgen F1, Ural A, Bekerecioğlu M.](#)

Abstract

BACKGROUND:

Maxillofacial injuries in children are rarer in proportion in comparison to adult facial injuries, and they constitute 1% to 15% of all facial bone fractures. The causes and incidence of maxillofacial injuries in children differ based on social, cultural, and environmental factors.



AIM:

The purpose of this study is to investigate the etiology, epidemiology, and type of injury in pediatric facial injuries, as well as analyzing types of fractures, related injuries, and treatment options.

MATERIALS AND METHODS:

The study obtained the approval of the local ethics board to include 55 pediatric patients in the age group of 0 to 18 years who received inpatient treatment or surgical interventions owing to maxillofacial trauma at an Esthetic, Plastic and Reconstructive Surgery Clinic between January 2016 and December 2018. The patients were examined under 5 groups based on their causes of injury: motorized vehicle accidents (MVA); bicycle; falls (from height or ground level); assault; firearm injuries. They were examined under 6 groups based on the location of their fractures: mandibula, maxilla, orbita, frontal bone, zygomatic arch, nasal bone.

RESULTS:

The study included 55 patients of the ages 0 to 18 with the mean age of 11.6 ± 3.2 years. Thirty-seven of the patients (67.2%) were male, whereas 18 (32.7%) were female. Among the causes of injury, the highest number of patients was 25 (45.4%) with MVA. The most frequent location of the fractures was the mandible.

CONCLUSIONS:

Consequently, experiences regarding pediatric maxillofacial traumas are limited, and there is no complete consensus on treatment. In difference to the interventions in adults, the dental structure in pediatric patients need to be definitely considered, the least invasive intervention form should be preferred, and observation and follow-up should be practiced in minimally displaced fractures rather than surgical interventions

J Craniofac Surg. 2019 Aug 28.

3. Management of idiopathic epistaxis in adults: what's new?

[Meccariello G1, Georgalas C2, Montevecchi F1, Cammaroto G1,3, Gobbi R1, Firinu E1, De Vito A1, Vicini C1.](#)

Abstract

Epistaxis is one of the most common complaints presenting to emergency departments. The aim of this study is to systematically review and critically evaluate the evidence relating to treatment of idiopathic epistaxis for guiding best practice. A comprehensive review of the English language literature was performed using PubMed, Embase, Cochrane Library and Central



electronic databases. The inclusion criteria were: retrospective or prospective or randomised controlled clinical trials which included outcomes in the management of idiopathic epistaxis. Twenty-three articles met inclusion criteria and were reviewed. Nasal packing still represents the first-line approach to epistaxis, although, at present, it appears that there is clear evidence in the literature to suggest that it is less effective and associated with more admissions and longer hospital stays than endoscopic electrocoagulation-based management of epistaxis. In conclusion, cauterisation should be the first-line approach for its high cost-effectiveness rate and low risk of complications. Further research is urgently needed to assess the efficacy of new biomaterials

Acta Otorhinolaryngol Ital. 2019 Mar 25.

4. Advances in aeroallergen immunotherapy.

[Chan SK1.](#)

Abstract

PURPOSE OF REVIEW:

Allergic rhinoconjunctivitis is the most common manifestation of allergic disease. This break in the normal natural function of the immune system to ignore harmless molecules such as pollen and pet dander to now aggressively react has led to a substantial disease burden that is not always recognized and adequately treated.

RECENT FINDINGS:

Individual molecular component testing may increase the predictive value of blood sIgE and clinical symptoms. Defining the most symptoms inducing allergenic protein has led to advances in peptide-based allergen immunotherapy. There have been steady consistent reports that allergy immunotherapy for children with symptomatic allergic rhinitis prevents the onset of asthma.

SUMMARY:

Allergy immunotherapy is an effective disease-modulating treatment that alters the underlying immune dysfunction which is a currently underutilized therapy especially as it is likely effective in preventing the onset of asthma in children, at least in the short term

Curr Opin Pediatr. 2019 Sep 3



5. Consensus guidance of nebulizer therapy for acute rhinosinusitis.

[Ohki M1, Hyo Y2, Yoshiyama Y3, Takano H4, Takahata J5, Suzuki M6, Takeno S7, Ogoshi T8, Suzuki K9, Takeuchi K10, Naito K11, Haruna S12, Fujisawa T13, Yamaguchi S14, Hotomi M15, Kawauchi H16, Kurono Y17; working group of the Japan Society for Infection and Aerosol in Otorhinolaryngology.](#)

Abstract

The guidance deals with the recommended applications, procedures, and safety management of nebulizer therapy for acute rhinosinusitis. In Japan, nebulizer therapy for sinusitis has been covered by public health insurance since 1958 and has been commonly carried out nationwide. The Japan Society for Infection and Aerosol in Otorhinolaryngology and the Oto-Rhino-Laryngological Society of Japan set up a working group to draw up a consensus guidance on nebulizer therapy for acute rhinosinusitis. The device for nebulizer therapy are classified into jet, ultrasound, and mesh types. In Japan, cefmenoxime hydrochloride (CMX) was approved for use in nebulizer therapy since 1996. The widening of the obstructed lesions such as large polyps prior to nebulizer therapy were recommended. The numbers of times of nebulizer therapy is recommended for three times in a week for at least for 2 weeks (cure rate: 68%, eradication ratio: 48%). Concerns should be pay for the changes of activity of medicine due to the mixing and bacterial contamination. Pseudomonas cepacia growing in a short even in both saline and distilled water leads to contamination at high concentrations by 2 days. Nebulizer therapy is an effective treatment based on a drug delivery system (DDS) to the nasal and paranasal cavities. The therapy effectively increases the local drug concentration by promptly and uniformly delivering drugs to a targeted local site. The therapy is safe with less systemic absorption and with few adverse reactions

Auris Nasus Larynx. 2019 Aug 31.

6. Bony orbital changes in allergic fungal sinusitis are reversible after treatment.

[Lee A1,2,3, Ellul D2, Sommerville J3,4, Earnshaw J2, Sullivan TJ1,3.](#)

Abstract

Allergic fungal sinusitis (AFS) arises from a host hypersensitivity reaction to fungi residing within the sino-nasal tract. Computed tomography imaging may show heterogenous sinus opacification with bony erosion and expansion into the orbits. With advanced orbital involvement there is a risk of optic neuropathy and irreversible vision loss. We present a patient with AFS who presented with bilateral proptosis and early optic neuropathy. Radiologically, there was evidence of bony erosion and orbital wall compression. Following oral corticosteroids and full-house



endoscopic sinus surgery, these changes reversed considerably. This case shows that bony and anatomical orbital changes from AFS are reversible with adequate surgical treatment

Orbit. 2019 Jun 6:1-3

7. Current perspectives on the origin theory of juvenile nasopharyngeal angiofibroma.

[Li W#1, Ni Y#1, Lu H1, Hu L1, Wang D1.](#)

Abstract

Juvenile nasopharyngeal angiofibroma (JNA) is a histopathologically benign and highly vascular neoplasm, which is mainly seen in young adolescent men. It is a rare tumor, accounting for 0.05% of all head and neck neoplasms. The etiology of JNA has always been a controversial topic. Some researchers believe that it is a genuine tumor. Others consider that it is the result of vascular malformation caused by the non-absorption of artery residues in the first branchial arch during development, and that hormone and genetic effects are also related to its etiology. In addition, the JNA was so called because it was previously thought to originate from the nasopharynx. However, the origin site of JNA is not completely clear. Several studies emphasized that it originated from the upper lip of the sphenopalatine foramen at the junction of the sphenoid process of the palate and the pterygoid process, while others stressed that it originated from the pterygoid canal. Thus, further studies are needed for identifying the ultimate origin.

Discov Med. 2019 Jun;27(150):245-254.

8. Imaging predictors for malignant transformation of inverted papilloma.

[Yan CH1, Tong CCL2, Penta M3, Patel VS1, Palmer JN2, Adappa ND2, Nayak JV1, Hwang PH1, Patel ZM1.](#)

Abstract

OBJECTIVES/HYPOTHESIS:

Inverted papillomas (IPs) are benign tumors of the sinonasal tract with a malignant transformation potential. Predicting the transformation propensity of IPs and corresponding risk factors has long been a challenge. In this study, we aimed to use radiographic findings on magnetic resonance imaging (MRI) and computed tomography (CT) to help differentiate IP from IP-transformed squamous cell carcinomas (IP-SCC).



STUDY DESIGN:

Retrospective cohort study.

METHODS:

A retrospective analysis was performed at two institutions comparing IP (n = 76) and IP-SCC (n = 66) tumors, evaluating preoperative radiographic imaging with corresponding surgical pathology reports. The presence of a convoluted cerebriform pattern (CCP) using postcontrast T1-weighted and T2-weighted MRI was evaluated. Using MRI diffusion-weighted imaging (DWI), we calculated the apparent diffusion coefficient (ADC) value of each tumor. We also determined the tumor origin, attachment sites, and presence of bony erosion using CT imaging.

RESULTS:

Benign IPs had a higher prevalence of CCP on MRI compared to IP-transformed SCC (P = .0001). The mean value ADC of malignant IP-SCC ($ADC_{b0,1000} = 1.12 \times 10^{-3} \text{ mm}^2/\text{s}$) was significantly lower than that of benign IPs ($ADC_{b0,1000} = 1.49 \times 10^{-3} \text{ mm}^2/\text{s}$, P = .002). IP-SCC tumors were more likely to have orbital wall attachment (P = .002) and bony erosion (P < .0001) compared to IPs.

CONCLUSIONS:

Evaluation of CCP and DWI with ADC values on MRI are promising qualitative and quantitative methods to help differentiate benign IP tumors from their transformed malignant counterparts. Malignant IP-SCCs are associated with a loss of CCP and lower ADC values. Findings of orbital wall involvement and bony erosion on CT may also help determine presence of malignancy.

Laryngoscope. 2019 Apr;129(4):777-782.

9. Endoscopic Versus Open Resection of Non-Squamous Cell Carcinoma Sinonasal Malignancies.

[Povolotskiy R1, Farber NI1, Bavier RD1, Cerasiello SY1, Eloy JA1,2,3,4, Hsueh WD1,2.](#)

Abstract

OBJECTIVE:

Non-squamous cell carcinoma (non-SCC) variants of sinonasal cancer are rare cancers which are optimally managed with complete surgical resection. This study aims to assess the impact of surgical approach on outcomes by comparison of cases managed with open versus endoscopic resection.



METHODS:

The National Cancer Database 2004-2015 datasets were queried for all cases of non-SCC initially managed with definitive surgery. Patients were grouped according to surgical approach (endoscopic vs. open) and compared for patient, tumor, and treatment variables using chi-squared analyses. Logistic regression was used to determine predictors of receiving endoscopic surgery. Subgroups were compared for survival using Cox regression and perioperative outcomes.

RESULTS:

Of the 1595 cases of non-SCC sinonasal cancers managed with definitive surgery, 42.2% were treated endoscopically. Open and endoscopic groups differed significantly by stage, primary site, histology, facility type, margin status, and clinical stage. Logistic regression showed that increased income was a significant predictor of receiving endoscopic surgery whereas stage IV (odds ratio: 0.58, $P = .017$) reduced the odds of receiving endoscopic surgery. Open resection patients had longer mean length of stay (LOS) than those who underwent endoscopic resection (5.09 vs. 3.16 days, $P < .001$). On Cox regression, no difference in survival was observed between open and endoscopic patients ($P = .534$).

CONCLUSIONS:

Patients with non-SCC sinonasal cancer managed with endoscopic surgery had a decreased LOS and no significant difference in survival compared to patients undergoing open resection. Therefore, an endoscopic approach may be considered a viable alternative to open resection

Laryngoscope. 2019 Sep 12.



10. Response to Glucocorticosteroids Predicts Olfactory Outcome After ESS in Chronic Rhinosinusitis.

[Bogdanov V1,2,3, Walliczek-Dworschak U1,4, Whitcroft KL1,5,6, Landis BN1,7, Hummel T1.](#)

Abstract

OBJECTIVES:

Olfaction is frequently impaired in chronic rhinosinusitis with nasal polyps (CRSwNP) and often improves after endoscopic sinus surgery (ESS). Data about dynamics of olfactory changes after ESS are lacking, and little information is available concerning whether preoperatively administered glucocorticosteroids predict postoperative olfaction. Therefore, the aim of this study was to examine dynamics of olfaction after ESS in relation to the effect of preoperative **administration of glucocorticosteroids in CRSwNP.**

METHODS:

This prospective study included 52 CRSwNP patients (30 men, 22 women, mean age 54 ± 14 years) divided into a control group ($n = 31$) subjected to ESS without preoperative steroids and a treatment group ($n = 21$) receiving orally administered glucocorticosteroids preoperatively. Self-ratings of olfaction and olfactory testing using the extended Sniffin' Sticks test battery (threshold, discrimination and identification [TDI] score) were performed. Olfaction was measured preoperatively; after termination of glucocorticosteroid treatment (only treatment group); and 2 weeks, 1 month, and 3 months postoperatively.

RESULTS:

After glucocorticosteroids, TDI score significantly improved in 57% of patients, and olfactory function remained unchanged in 43%. In addition, improvement in TDI score after steroids and 3 months postoperatively were significantly correlated ($r = 0.66$, $P = 0.01$). Patients whose olfaction did not improve after glucocorticosteroids did not benefit from surgery. Regarding postoperative olfactory dynamics, TDI score reached its maximum 1 month postoperatively and decreased again approximately 3 months after surgery.

CONCLUSION:

Glucocorticosteroids improved olfaction in CRSwNP comparable to surgery. In addition, changes in relation to steroids predicted olfactory outcome postoperatively. Regarding the olfactory dynamics, it could be demonstrated that olfactory function increased 1 month after surgery and decreased 3 months postoperatively.

Laryngoscope. 2019 Aug 2