



## 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. International Pediatric Otolaryngology Group (IPOG) Consensus Recommendations: Diagnosis, Pre-Operative, Operative and Post-Operative Pediatric Choanal Atresia Care**

[Eric Moreddu 1](#), [Mark Rizzi 2](#), [Eelam Adil 3](#), [Karthik Balakrishnan 4](#), [Kenny Chan 5](#), [Alan Cheng 6](#), [Sam J Daniel 7](#), [Alessandro de Alarcon 8](#), [Catherine Hart 8](#), [Christopher Hartnick 9](#), [Andrew Inglis 10](#), [Nicolas Le Boulanger 11](#), [Seth Pransky 12](#), [Reza Rahbar 3](#), [John Russell 13](#), [Mike Rutter 8](#), [Douglas Sidell 14](#), [Richard J H Smith 15](#), [Marlene Soma 16](#), [Jorge Spratley 17](#), [Dana Thompson 18](#), [Marilena Trozzi 19](#), [Robert Ward 20](#), [Michelle Wyatt 21](#), [Jeffrey Yeung 7](#), [George Zalzal 22](#), [Karen Zur 2](#), [Richard Nicollas 23](#)

### **Abstract**

**Objective:** To provide recommendations to otolaryngologists and allied physicians for the comprehensive management of young infants who present with signs or symptoms of choanal atresia.

**Methods:** A two-iterative delphi method questionnaire was used to establish expert recommendations by the members of the International Otolaryngology Group (IPOG), on the diagnostic, intra-operative, post-operative and revision surgery considerations.

**Results:** Twenty-eight members completed the survey, in 22 tertiary-care center departments representing 8 countries. The main consensual recommendations were: nasal endoscopy or fiberscopy and CT imaging are recommended for diagnosis; unilateral choanal atresia repair should be delayed after at least age 6 months whenever possible; transnasal endoscopic repair is



the preferred technique; long term follow-up is recommended (minimum one year) using nasal nasofiberscopy or rigid endoscopy, without systematic imaging.

**Conclusion:** Choanal atresia care consensus recommendations are aimed at improving patient-centered care in neonates, infants and children with choanal atresia

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## **2. Considerations for Nasal Bone Fractures: Preoperative, Perioperative, and Postoperative**

[Dong Gil Han 1](#)

### **Abstract**

Nowadays, the incidence of nasal bone fracture is increasing because of social complexity with frequent social activity, and reduction of fractures is relatively simple and can be corrected in short operation time. However, the postoperative results are known to be less satisfied with higher complication rates relatively. These problems could have resulted from inaccurate recognition and interpretation of fracture aspect, inaccurate planning of operation resulting in under or overcorrection, ignoring septal management, complication related nasal packings with removal, postoperative management, and patient satisfaction with complication

Arch Craniofac Surg, 21 (1), 3-6 Feb 2020

## **3. Data on the Hemostasis in Epistaxis With Topically Administered TXA Versus Topical Oxymetazoline Spray**

[Kristen Whitworth 1, Jacob Johnson 1, Samuel Wisniewski 2, Meghan Schrader 1](#)

### **Abstract**

The use of tranexamic acid (TXA) has recently gained popularity as a treatment modality for epistaxis in the emergency department. Data are presented on the efficacy of the topical use of the intravenous formulation of TXA versus the vasoconstrictor oxymetazoline applied topically in achieving hemostasis in patient presenting to the emergency department with anterior epistaxis. The original article "Comparative Effectiveness of Topically Administered TXA Versus Topical Oxymetazoline Spray for Achieving Hemostasis in Epistaxis" [1] provides complete interpretation of the data. The dataset regarding these treatment modalities has clinical significance toward preventing an avoidable need for escalation of treatment that could potentially increase patient discomfort and prolong emergency department throughput time

Data Brief, 29, 105283 2020 Feb 13 eCollection Apr 2020



## 4. Childhood Nasal Foreign Bodies: Analysis of 1724 Cases

[İbrahim Hira 1, Mehmet Tofar 1, Ali Bayram 1, Mehmet Yaşar 1, Cemil Mutlu 1, İbrahim Özcan 1](#)

### Abstract

**Objective:** This study evaluates the characteristics of the foreign bodies removed from the nose, the treatment methods used, and the complications associated with the foreign body, and discusses the reports in the literature.

**Methods:** Age, gender, type of foreign body, side of nose, clinical symptoms, complaints, diagnosis and treatment methods were retrospectively evaluated in all 1724 pediatric patients with foreign bodies.

**Results:** Of the 1724 patients, 841 (48.7%) were female and 883 (51.3%) were male. Their mean age was  $4.3 \pm 3.06$  years (age range: 4 months-16 years). Foreign body was found on the right side in 928 (53.8%), on the left-side in 768 (44.5%) and bilaterally in 28 (1.6%) patients. The foreign bodies were inorganic substances such as beads, paper, napkins, toy parts, batteries, pencils, erasers in 1287 cases (74.7%) and organic materials such as hazelnuts, walnuts and fruit seeds in 437 cases (25.3%). The foreign bodies were extracted in outpatient settings in 1709 cases. Fifteen patients in whom the foreign body was located in the posterior region and/or who were uncooperative were treated under anesthesia. The most common complication was epistaxis. Septal perforation was seen in one patient with alkaline battery.

**Conclusion:** In pediatric patients presented to the otolaryngology and the pediatrics clinics with complaints involving nasal obstruction, unilateral purulent nasal discharge, epistaxis, and foul odor, possibility of a foreign body in the nose should be kept in mind.

Turk Arch Otorhinolaryngol, 57 (4), 187-190 Dec 2019

## 5. Clinical Factors Associated With Acute Exacerbations of Chronic Rhinosinusitis

[Jason H Kwah 1, Shaan N Somani 1, Whitney W Stevens 2, Robert C Kern 2, Stephanie S Smith 3, Kevin C Welch 3, David B Conley 3, Bruce K Tan 3, Leslie C Grammer 1, Amy Yang 4, Robert P Schleimer 2, Anju T Peters 5](#)

### Abstract

**Background:** Chronic rhinosinusitis (CRS) is complicated by frequent acute exacerbations leading to significant health care burden and impaired quality of life.



**Objective:** The objective of this study was to identify clinical factors associated with frequent acute exacerbation of CRS (AECRS).

**Methods:** This is a retrospective cohort study of patients with CRS from January 1, 2014, to May 31, 2016. Frequent AECRS was defined as at least 4 episodes over a 12-month period in which an antibiotic was prescribed for worsening sinus symptoms, and infrequent AECRS was defined as 0 to 3 episodes. Clinical factors, including asthma, allergic rhinitis, eosinophil count of at least 150 cells per microliter, and autoimmune disease, were evaluated for associations between the 2 groups.

**Results:** Of the 3109 patients with CRS who were identified, 600 (19.3%) were classified as having frequent exacerbation. Asthma, allergic rhinitis, eosinophil count of at least 150 cells per microliter, and autoimmune disease were associated with frequent AECRS with statistically significant adjusted odds ratios (aORs) after controlling for age, race, and sex in multivariate analysis (asthma aOR = 2.61 [95% CI = 2.14-3.18]; allergic rhinitis aOR = 1.96 [95% CI = 1.58-2.42]; eosinophil count of at least 150 cells per microliter aOR = 1.54 [95% CI = 1.21-1.97]; and autoimmune disease aOR = 1.68 [95% CI = 1.36-2.07]). Antibody deficiency, antibiotic allergy, lower FEV1, radiographic sinus disease severity, nasal polyposis, and systemic corticosteroid use were also associated with frequent AECRS.

**Conclusion:** Patients with frequent episodes of AECRS were characterized by a higher prevalence of asthma, allergic rhinitis, eosinophil count of at least 150 cells per microliter, autoimmune disease, and other allergic and immunologic diseases. These findings identify a high-risk phenotype of patients with CRS for preventive interventions to reduce exacerbation frequency

J Allergy Clin Immunol 2020 Jan 29

## **6. Diagnosis and Treatment of Acute Invasive Fungal Sinusitis in Cancer and Transplant Patients**

[Monica Fung 1, Jennifer Babik 2, Ian M Humphreys 3, Greg E Davis 3](#)

### **Abstract**

**Purpose of review:** Modern advances in oncologic and end-organ therapies have led to an increase in immunocompromised patients and a corresponding rise in acute invasive fungal sinusitis (AIFS). Here, we present a comprehensive medical and surgical approach to the diagnosis and management of immunocompromised cancer and transplant patients with AIFS.

**Recent findings:** Aspergillus and Mucorales are the most common fungi to cause AIFS, though atypical fungal pathogens have been implicated particularly among patients on azole prophylaxis. Symptoms present in the majority of AIFS cases include fever, nasal congestion,



and facial swelling. Nasal endoscopy and radiology are adjuncts to clinical exam with the gold standard diagnostic test still being histopathology, though molecular testing such as panfungal PCR is playing a larger role. The treatment of AIFS requires surgery, antifungal therapy, and reversal of immunosuppression. We recommend initiation of liposomal amphotericin B as an empiric therapy for AIFS, transitioned to targeted therapy when/if a fungal pathogen is identified. Goals of surgery include diagnostic sampling and debridement of necrotic tissue. Equally, if not more important, is reversal of underlying immune suppression. Immune-stimulating therapies hold promise for reducing mortality, but require additional study. Despite improvements in medical and surgical management of AIFS, mortality continues to approach 50%. Early diagnosis of this disease entity followed by aggressive surgical and medical management are important, including reversal of the underlying immunosuppression.

Curr Infect Dis Rep, 21 (12), 53 2019 Nov 26

## **7. Surgical Treatment of Paranasal Sinus Osteomas: A Single Center Experience of 58 Cases**

[Axel Wolf 1, Bettina Safran 1, Jakob Pock 1, Peter Valentin Tomazic 1, Heinz Stammberger 1](#)

### **Abstract**

**Objectives:** Osteomas are osseous tumors that primarily occur at the skull, in particular the paranasal sinus system. Surgical tumor resection is the "gold standard" treatment in symptomatic osteomas. The aim of this study was to investigate the use of surgical approaches (endoscopic, open, combined) and to provide a step-by-step approach for patients' management.

**Methods:** Fifty-eight patients (31 m, 27 f, 42.1 ± 15.3 years) that were treated between 2001 and 2015 at our department were included in this retrospective, single center study.

**Results:** In almost half of cases (n = 28, 48.3%) endoscopic, endonasal approaches were used for tumor resection while open (n = 11, 19%) or combined (n = 19, 32.8%) approaches were used in the rest of the cohort. Open or combined approaches were applied in patients suffering from osteomas localized in the maxillary or frontal sinuses only.

**Conclusion:** Beside interviews, clinical examination, nasal endoscopy, and computed tomography are crucial for diagnosis of paranasal sinus osteomas. Magnet resonance imaging can be useful in extensive pathologies. The preoperative selection of the optimal approach for osteoma resection might be most challenging in patients' management. Although useful recommendations regarding the use of surgical approaches have been published, technical requirements and surgical experience of surgeons have to be considered in the limitations of endoscopic approaches. If there are doubts about the resectability of an osteoma by an



endoscopic approach, the surgical procedure may be started endoscopically, and, if necessary, it can be combined with an external approach

Laryngoscope 2019 Sep 14

## **8. Trimodal Embolization of Juvenile Nasopharyngeal Angiofibroma With Intracranial Extension**

[Andrew J Maroda 1](#), [Nicholas A Beckmann 2](#), [Anthony M Sheyn 3](#), [Lucas Elijevich 4](#), [L Madison Michael 5](#), [Julie M DiNitto 6](#), [Sanjeet V Rangarajan 7](#)

### **Abstract**

**Objectives/purpose:** 1. Understand three different techniques for embolization of juvenile nasal angiofibroma (JNA) and assess their combined efficacy. 2. Perform successful endoscopic intralesional embolization of highly vascular sinonasal neoplasms.

**Methods:** In this study, we present the case of a 10-year-old male patient diagnosed with juvenile nasal angiofibroma (JNA) who successfully underwent trimodal embolization and resection at a tertiary academic medical center after failed coil embolization in his home country. We examine the clinical details of the case and a review of pertinent literature.

**Results:** Preoperative embolization is common in the treatment of JNA, but there is little consensus as to the proper timeframe and techniques utilized. In our case, preoperative imaging revealed a vascular tumor with intracranial extension consistent with UPMC Stage V JNA. Diagnostic angiogram revealed significant arborization from the internal and external carotid systems. A trimodal embolization technique, utilizing transarterial, percutaneous, and direct endoscopic intralesional injection of n-Butyl Cyanoacrylate (n-BCA) was performed. A two-staged endoscopic and open resection was subsequently performed one week later with minimal blood loss. In our case, combining intralesional embolization with traditional transarterial techniques resulted in an improved operative field and a successful clinical result.

**Conclusion:** Embolization of highly vascular sinonasal tumors with n-BCA is not limited to endovascular techniques, but can be safely combined with percutaneous and endoscopic intralesional embolization up to one week prior to surgical resection.

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## 9. Does Evaluation of Tumor Volume or/Both Origination Site Better Guide to Optimal Surgery for Inverted Papilloma?

[Muammer Melih Şahin 1](#), [Metin Yılmaz 2](#), [Mehmet Ekrem Zorlu 3](#), [Mehmet Göcek 2](#), [Mehmet Düzlü 2](#), [Erolcan Sayar 4](#), [Alper Ceylan 2](#)

### Abstract

**Introduction:** Sinonasal inverted papilloma is noted for its high rate of recurrence. Staging systems aid to reduce recurrence and avoid excessive surgeries by guiding the selection of the optimal surgical approach.

**Objective:** To evaluate the effectiveness of different endoscopic approaches in inverted papilloma by assessing tumor origin site and tumor volume.

**Methods:** Krouse classification system that is based on tumor volume was used for staging; furthermore, tumor origin sites were grouped as lateral nasal wall, medial wall and other walls of maxillary sinus. The main treatment method for all patients was endoscopic sinus surgery. Endoscopic extended middle meatal antrostomy, endoscopic Caldwell-Luc and endoscopic medial maxillectomy were the additional surgery types performed in different combinations.

**Results:** Fifty-five patients (42 male) with a mean  $54.9 \pm 14.4$  years of age were included. 37 patients were diagnosed with advanced stage inverted papilloma (67.2 %). Recurrence was observed in 12 patients (21.8 %). In early stage lateral nasal wall origination, no recurrence was observed in the simple tumor resection group (0/10). In early stage medial wall origination, no recurrence was observed in the extended middle meatal antrostomy group (0/8). In advanced stage medial wall origination, the recurrence rates of extended middle meatal antrostomy, extended middle meatal antrostomy+endoscopic Caldwell- Luc and endoscopic medial maxillectomy were 100.0 %, 53.8 % and 13.6 %, respectively ( $p=0.002$ ). In advanced stage other walls of maxillary sinus origination, recurrence rates of extended middle meatal antrostomy+endoscopic Caldwell-Luc and endoscopic medial maxillectomy were 20 % and 16.6 %, respectively ( $p=0.887$ ).

**Conclusion:** Tumor origin site, tumor stage and surgery types show an impact on recurrence. Despite the fact that tumor origin site singly could lead to appropriate selection of the surgery type in most cases, tumor stage carries substantial importance in selection of surgery type for sinonasal-inverted papilloma. An operation plan regarding both tumor volume and tumor origin site may aid surgeons in selecting optimal endoscopic surgical method to avoid recurrence or excessive surgeries

Braz J Otorhinolaryngol 2019 Nov 15



## **10. The Treatment Efficacy of Nasal Polyposis on Olfactory Functions, Clinical Scoring Systems and Inflammation Markers**

[Zehra Betul Paksoy 1, Melih Cayonu 2, Cigdem Yucel 3, Turan Turhan 3](#)

### **Abstract**

**Objective:** The aim of this study was to investigate the effect of the medical and the surgical treatment on the olfactory functions, clinical scoring systems and inflammation markers in patients with nasal polyposis. In addition, the secondary aim was to investigate the correlation between those investigated parameters.

**Subjects and methods:** A total of 30 patients, who completed the standardized medical and surgical treatment and also came to 3 months of follow-ups regularly after the surgery, were included in the study. The Sniffin' Sticks olfactory tests, radiological and the endoscopic stagings, liver-expressed chemokine (CCL16) and endothelin (ET) levels and sino-nasal outcome test-22 (SNOT-22) were performed at the initial and at the end of the study.

**Results:** The current study had four major findings: (1) significant improvement in odor functions after treatment was determined; however, the majority of the patients had been already hyposmic. (2) In addition, significant improvement was found in ET and CCL16 levels, SNOT-22 results, and radiologic and endoscopic stagings at the end of the study. (3) However, there was no correlation between the olfactory functions and the investigated parameters. (4) There was a positive correlation between polyp recurrence and ET levels.

**Conclusion:** The standardized medical and surgical treatment provided a significant improvement in the olfactory functions. However, only one patient (3.3%) had become normosmic at the end of the study

Eur Arch Otorhinolaryngol, 276 (12), 3367-3372 Dec 2019