



Reader Digest

**Digested by Dr. Tarek Kandil, MD. ENT Consultant, students
Hospital, Cairo University**

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. Optimizing Airway Surgery in COVID 19 Era

[Sanchita Kalita 1 2, Biswajit Gogoi 1, Gautam Khaund 1 3 4, Vivek Agarwal 1 3, Partha Pratim Borah 5, Anup Dutta 6, Daisy Gogoi 6](#)

Abstract

Otorhinolaryngologists, particularly dealing with airway cases, are subjected to highest risk of COVID 19 aerosolisation, self infection and transmission. Moreover, airway cases, which mostly present as emergency, cannot be deferred. Being a tertiary airway centre and having received a number of airway cases, most of them requiring prompt surgical intervention, our airway surgery and anaesthesiology team had to work in conjunction to adapt and readapt the practice over the past few months, striving to achieve effective airway surgery protocols, to minimize exposure and prevent transmission of COVID 19. To enlist the encountered airway cases during COVID 19 pandemic and to highlight the important inclusions and adaptations in executing the airway surgeries. A retrospective observational study of 7 months duration was carried out. This is a single institutional study, where the sample included the primary as well the referred airway cases. Apart from Tracheotomy, Foreign body bronchus removal, Dilatation of Laryngotracheal Stenosis (LTS) and excision of Recurrent Respiratory Papillomatosis (RRP), we also have had the experience to deal with congenital Laryngo-tracheo-oesophageal Cleft (LTOC) Type III b, Thyroid surgery to relieve tracheal compression and Bilateral Choanal Atresia repair during the last 7 months. Routine 2 weeks follow up of the patients have been favourable, as there has not been any report or clinical features of transmission of COVID 19. As the airway surgeries could be executed with the incorporation of certain change in practice and as the follow up revealed no evidence of transmission, we attempt to contribute to airway best practice guideline for maintaining the safety of patients and health professionals

Indian J Otolaryngol Head Neck Surg. 2021 Jan 7;1-8.



2. Frontal sinus fractures and cerebrospinal fluid leaks: a change in surgical paradigm

[Catherine Banks 1, Jessica Grayson 2, Do Yeon Cho 2, Bradford A Woodworth 2](#)

Abstract

Purpose of review: Traditionally, frontal sinus trauma has been treated using open incisions to access the anterior and/or posterior table. Mounting evidence indicates frontal sinus trauma can be managed using an endoscopic endonasal approach (EEA) with less morbidity. Such an approach permits preservation of a functional sinus and less reliance on computed tomography for postoperative follow up. The goal of this article is to highlight a shift in paradigm away from open approaches using external incisions towards an EEA to repair cerebrospinal fluid (CSF) leaks and fractures of the frontal sinus.

Recent findings: In a prospective case series of 46 patients undergoing EEA to frontal sinus fractures, 41 patients had active CSF leaks arising from the posterior table of the frontal sinus. A successful endoscopic repair was achieved in 97.6% with only one patient requiring revision Draf IIB surgery. Anterior table fractures were also successfully reduced with excellent cosmesis.

Summary: Endoscopic repair of frontal sinus fractures and CSF leaks is effective and well tolerated. In select patients, it is the preferred treatment as it maintains normal sinus structure and function, minimizing both early and late complications

Curr Opin Otolaryngol Head Neck Surg. 2020 Feb;28(1):52-60

3. A systematic review to examine the relationship between objective and patient-reported outcome measures in sinonasal disorders: recommendations for use in research and clinical practice

[Ngan Hong Ta 1, Jack Gao 2, Carl Philpott 3](#)

Abstract

Background: Common sinonasal disorders include chronic rhinosinusitis (CRS), allergic rhinitis (AR), and a deviated nasal septum (DNS), which often coexist with shared common symptoms including nasal obstruction, olfactory dysfunction, and rhinorrhea. Various objective outcome measures and patient-reported outcome measures (PROMs) are used to assess disease severity; however, there is limited evidence in the literature on the correlation between them. This systematic review aims to examine the relationship between them and provide recommendations.



Methods: A search of MEDLINE and EMBASE identified studies quantifying correlations between objective outcome measures and PROMs for the sinonasal conditions using a narrative synthesis.

Results: In total, 59 studies met inclusion criteria. For nasal obstruction, rhinomanometry shows a lack of correlation whereas peak nasal inspiratory flow (PNIF) shows the strongest correlation with PROMs ($r > 0.5$). The Sniffin' Stick test shows a stronger correlation with PROMs ($r > 0.5$) than the University of Pennsylvania Smell Identification Test (UPSIT) ($r < 0.5$). Computed tomography (CT) sinus scores show little evidence of correlation with PROMs and nasal endoscopic ratings (weak correlation, $r < 0.5$).

Conclusion: Overall, objective outcome measures and PROMs assessing sinonasal symptoms are poorly correlated, and we recommend that objective outcome measures be used with validated PROMs depending on the setting. PNIF should be used in routine clinical practice for nasal obstruction; rhinomanometry and acoustic rhinometry may be useful in research. The Sniffin' Sticks test is recommended for olfactory dysfunction with UPSIT as an alternative. CT scores should be excluded as a routine CRS outcome measure, and endoscopic scores should be used in combination with PROMs until further research is conducted.

Int Forum Allergy Rhinol. 2021 Jan 8.

4. Tackling nasal symptoms in athletes: moving towards personalized medicine

[Valerie Hox 1 2](#), [Simon Beyaert 1](#), [Dominique Bullens 3 4](#), [Mariana Couto 5](#), [Daniel Langer 6](#), [Peter-Willem Hellings 4 7](#), [Caroline Huart 1](#), [Philippe Rombaux 1](#), [Sven Seys 4](#), [Pavol Surda 8](#), [Abigail Walker 9](#), [Brecht Steelant 4](#)

Abstract

Adequate nasal breathing is indispensable for athletes and nasal symptoms have been shown to interfere with their subjective feeling of comfortable breathing and quality of life. Nasal symptoms are caused by either structural abnormalities or mucosal pathology. Structural pathologies are managed differently from mucosal disease and therefore adequate diagnosis is of utmost importance in athletes in order to choose the correct treatment option for the individual. Literature suggests that nasal symptoms are more prevalent in athletes compared to the general population and certain sport environments might even trigger the development of symptoms. Given the high demands of respiratory function in athletes, insight into triggering factors is of high importance for disease prevention. Also, it has been suggested that athletes are more neglectful to their symptoms and hence remain undertreated, meaning that special attention should be paid to education of athletes and their caregivers. This review aims at giving an overview of nasal physiology in exercise as well as the possible types of nasal pathology.



Additionally, diagnostic and treatment options are discussed and we focus on unmet needs for the management and prevention of these symptoms in athletes within the concept of precision medicine

Allergy. 2021 Feb 19.

5. Use of Cryotherapy for Managing Epistaxis in the First Aid Setting: A Scoping Review

[David Berry 1](#), [Jestin N Carlson 2](#), [Eunice Singletary 3](#), [David A Zideman 4](#), [Jennifer Ring 5](#)

Abstract

Epistaxis, or nosebleed, is bleeding from the nostril(s), nasal cavity, or nasopharynx. Anterior nasal bleeding is the most common location for spontaneous nontraumatic epistaxis and is commonly treated with manual compression to the nasal alae. Cryotherapy is also routinely recommended in conjunction with manual compression in the first aid and ED setting. We performed a scoping review on behalf of the International Liaison Committee on Resuscitation First Aid Task Force guided by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for scoping reviews (PRISMA-ScR). We searched Embase, Cochrane, and PubMed databases for published studies, without date restrictions, and we searched the gray literature using Google.com and Google Scholar. The websites of selected resuscitation councils were searched for guidelines relating to the management of epistaxis. References from included studies were hand-searched. Our published and gray literature search identified 1255 and 61,315 records, respectively. After removing duplicates and following selection criteria, we included 21 records from the published literature and 11 records from the gray literature. Our scoping review found that most of the published studies and website documents focused on managing nontraumatic epistaxis in the first aid setting. They provide recommendations for the use of cryotherapy based on expert opinion or indirect evidence extrapolated from cryotherapy-associated changes in nasal submucosal temperature, nasal blood flow, and nasal blood volume in healthy subjects (three studies). We did not identify any prospective, randomized trials comparing the efficacy of cryotherapy as an intervention for nontraumatic epistaxis in the first aid setting. The limited literature identified in this scoping review does not support the development of a systematic review but highlights the need for future research to better understand the role of cryotherapy in the first aid setting

Cureus. 2021 May 4;13(5):e14832.



6. CSF rhinorrhoea post COVID-19 swab: A case report and review of literature

[Jayant Rajah 1, Joanna Lee 2](#)

Abstract

We report the case of a 59 year old male who presented with 2 months of persistent rhinorrhoea from left nostril post a nasal swab done for coryzal symptoms at the peak of the COVID-19 pandemic. Beta-2-transferrin confirmed it to be a CSF leak and imaging showed a left middle cranial fossa encephalocele herniating into the sphenoid sinus as the site of the leak post swab. The leak was treated endoscopically. We describe the case history and management of this exceedingly rare complication of nasal swab for respiratory testing.

J Clin Neurosci. 2021 Apr;86:6-9.

7. Allergic Rhinitis and Laryngeal Pathology: Real-World Evidence

[Yun-Ting Wang 1, Geng-He Chang 1 2 3 4, Yao-Hsu Yang 2 4 5, Chia-Yen Liu 4, Yao-Te Tsai 1 2, Cheng-Ming Hsu 1 2 4, Yi-Chan Lee 2 6, Li-Ang Lee 2 7, Pei-Rung Yang 2 5, Ming-Shao Tsai 1 2 3 4, Hsueh-Yu Li 2 7](#)

Abstract

Allergic rhinitis (AR) is correlated with diseases including allergic laryngitis, chronic obstructive pulmonary disease (COPD), asthma, and chronic rhinosinusitis (CRS). The unified airway model suggests that inflammation can spread in both lower and upper respiratory tracts. Moreover, some voice problems-laryngeal edema, dysphonia, and vocal nodules-have been associated with AR. We examined the association between AR and laryngeal pathology. We investigated 51,618 patients with AR between 1 January 1997 and 31 December 2013, along with 206,472 patients without AR matched based on age, gender, urbanization level, and socioeconomic status at a 1:4 ratio. We followed patients up to the end of 2013 or their death. The occurrence of laryngeal pathology was the primary outcome. Individuals with AR had a 2.43 times higher risk of laryngeal pathology than the comparison cohort group (adjusted HR: 2.43, 95% CI: 2.36-2.50, $p < 0.001$). Patients diagnosed as having AR exhibited higher comorbidity rates, including of asthma, COPD, CRS, gastroesophageal reflux disease, and nasal septum deviation, than those of the comparison cohort. Our results strongly indicate that AR is an independent risk factor for laryngeal pathology. Therefore, when treating AR and voice problems, physicians should be attuned to possible laryngeal pathology.

Healthcare (Basel). 2021 Jan 3;9(1):36.



8. Can palatovaginal canal be the site of origin of juvenile nasopharyngeal angiofibroma?

[A K Kairo 1, R Kumar 2, S C Sharma 2](#)

Abstract

Juvenile nasopharyngeal angiofibroma (JNA) is the most common benign tumor of the nasopharynx. For reasons unknown, this tumor is found almost always in male population. However, site of origin of JNA is still an enigma. Previously, JNA was considered to arise from the superior aspect of sphenopalatine foramen. Over last decade, the vidian canal was considered to be the more specific and likely site of origin. However, based on our observations, we believe this hypothesis to be anomalous as it does not explain major blood supply, pattern of skull base erosion in early stage of tumor and newer studies on electron microscopic and immunopathological findings. To explain these anomalies, we hypothesize the site of origin to be palato-vaginal canal

Med Hypotheses. 2020 Nov;144:110300.

9. Role of High-Risk HPV Detected by PCR in Malignant Sinonasal Inverted Papilloma: A Meta-Analysis

[Justin P McCormick 1, Jeffrey D Suh 1, Jivianne T Lee 1, Christine Wells 2, Marilene B Wang 1](#)

Abstract

Introduction: Prior studies suggest that there may be a link between human papillomavirus (HPV) infection and malignant sinonasal inverted papilloma (SNIP). This systematic review and meta-analysis was performed to further evaluate this potential association.

Study design: Systematic review with meta-analysis.

Methods: The Medline and Embase databases were used to identify case-control studies reporting the risk of malignant SNIP in patients with high-risk HPV subtypes identified by polymerase chain reaction (PCR). Meta-analysis was performed to determine pooled odds ratios (ORs) and 95% confidence intervals (CI).

Results: Twenty-one studies were identified, including a total of 841 subjects with SNIP. Seventeen studies were included in the final analysis, as four studies did not have any HPV-positive tumors in either group. A total of 56 malignant SNIP and 551 benign SNIP were ultimately identified. The pooled log-OR was 1.80 (95% CI: 1.03-2.57) for all high-risk HPV subtypes. Stratification by high-risk HPV subtype showed a log-OR of 1.67 (95% CI: 0.88-2.46) for HPV-16 and log-OR of 2.68 (95% CI: 1.30-4.05) for HPV-18.



Conclusion: Infection with high-risk HPV subtypes may be associated with an increased risk of malignant SNIP. HPV-18 showed the greatest overall average effect size of the common high-risk subtypes

Laryngoscope. 2021 Jul 7.

10. Histosurgical mapping of endoscopic endonasal surgery of sinonasal tumours to improve radiotherapy guidance

[T Leleu 1](#), [V Bastit 2](#), [M Doré 3](#), [E Kammerer 1](#), [C Florescu 1](#), [M Alfonsi 4](#), [I Troussier 5](#), [R-J Bensadoun 5](#), [J Biau 6](#), [E Blais 7](#), [A Coutte 8](#), [M Deberne 9](#), [N Wiazane 3](#), [C Dupin 10](#), [J-C Faivre 11](#), [P Giraud 12](#), [P Graff 13](#), [S Guihard 14](#), [F Huguet 15](#), [G Janoray 16](#), [X Liem 17](#), [Y Pointreau 18](#), [S Racadot 19](#), [U Schick 20](#), [S Servagi-Vernat 21](#), [X S Sun 22](#), [S Thureau 23](#), [J Villa 24](#), [N Vulquin 25](#), [S Wong 26](#), [V Patron 27](#), [J Thariat 28](#)

Abstract

Purpose: Endoscopic endonasal surgery (EES) is becoming a standard for most malignant sinonasal tumours. Margin analysis after piecemeal resection is complex and optimally relies on accurate histosurgical mapping. Postoperative radiotherapy may be adapted based on margin assessment mapping to reduce the dose to some sinonasal subvolumes. We assessed the use of histosurgical mapping by radiation oncologists (RO).

Material and methods: A French practice survey was performed across 29 ENT expert RO (2 did not answer) regarding integration of information on EES, as well as quality of operative and pathology reports to refine radiotherapy planning after EES. This was assessed through an electronic questionnaire.

Results: EES was ubiquitously performed in France. Operative and pathology reports yielded accurate description of EES samples according to 66.7% of interviewed RO. Accuracy of margin assessment was however insufficient according to more than 40.0% of RO. Additional margins/biopsies of the operative bed were available in 55.2% (16/29) of the centres. In the absence of additional margins, quality of resection after EES was considered as microscopically incomplete in 48.3% or dubious in 48.3% of RO. As performed, histosurgical mapping allowed radiotherapy dose and volumes adaptation according to 26.3% of RO only.

Conclusions: Standardized histosurgical mapping with margin and additional margin analysis could be more systematic. Advantages of accurate EES reporting could be dose painting radiotherapy to further decrease morbidity in sinonasal tumours.

Cancer Radiother. 2021 Jun 23;S1278-3218(21)00113-X.