



Reader Digest

**Digested by Dr. Tarek Kandil, MD. Consultant, students Hospital,
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1. A 20-year experience in microsurgical treatment of choanal atresia.

[Article in English, Spanish]

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Abstract

INTRODUCTION AND OBJECTIVES:

Choanal atresia is the most common congenital nasal anomaly. Diagnosis is confirmed by endoscopic examination and computed tomography. The definitive treatment is surgical, and different surgical techniques and approaches are used. We describe our experience in transnasal microsurgical treatment of congenital choanal atresia.

METHODS:

We retrospectively evaluated 49 patients with congenital choanal atresia operated in the Department of Respiratory Endoscopy over a period of 20 years. The clinical variables analysed were type of atretic plate, age at diagnosis and surgery, associated malformations, maternal history of hyperthyroidism treated with methimazole during pregnancy, mode of airway stabilisation before surgery, surgical technique, complications, and outcome.

RESULTS:

Mixed bilateral choanal atresia was the most frequent (29 cases). Its incidence was higher in females (61.2%). Almost 51% of patients showed associated malformations, and 7 had a history of maternal hyperthyroidism treated with methimazole during pregnancy. The surgical procedure consisted of a transnasal microscopic approach and placement of a silicone endonasal stent for one to 12 weeks. Thirty-five patients required revision after surgery. Nine patients had complications. Suitable nasal ventilation was achieved in 46 patients (93.9%). One patient died of causes unrelated to the surgery. Two patients with permeable choanae remain with tracheotomy.



CONCLUSION:

The transnasal microsurgical repair with endonasal stent proved to be a safe and effective procedure.

Acta Otorrinolaringol Esp. 2014 Mar-Apr; 65(2):85-92

2. BET 3: Topical intranasal tranexamic acid for spontaneous epistaxis.

[No authors listed]

Abstract

A short-cut review was carried out to establish whether topical tranexamic acid can be used to treat spontaneous epistaxis. Thirty-three papers were found, of which two presented the best evidence to answer the clinical question. The author, date and country of publication, patient group studied, study type, relevant outcomes, results and study weaknesses of these best papers are tabulated. The clinical bottom line is that there is insufficient evidence to support the use of topical intranasal tranexamic acid in the management of spontaneous epistaxis in haemodynamically stable patients presenting to the emergency department.

Emerg Med J. 2014 May; 31(5):436-7

3. Comparison of nasal mucociliary clearance in adenoid hypertrophy with or without otitis media with effusion.

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Abstract

OBJECTIVE:

To investigate pre- and postoperative mucociliary clearance in patients with adenoid hypertrophy or combined with otitis media with effusion.

METHODS:



Patients were divided into two groups: Group 1-patients with adenoid hypertrophy (AH), and Group 2-patients with AH and otitis media with effusion (AHOME). In all patients, AH size was recorded, and the Andersen saccharin and methylene blue tests were conducted before and 1 month after surgery to obtain mucociliary clearance time (MCT). Nasal cavity length was measured intraoperatively to establish mucociliary clearance velocity (MCV). Patients with allergic rhinitis, active infection, and history of nasal or ear surgery were excluded.

RESULTS:

This study included 64 patients with a mean age of 8.34 ± 2.98 years (range: 3-18 years). Pre- and postoperative MCT were 14.60 ± 4.83 and 9.48 ± 2.63 min in Group 1 and 16.03 ± 4.31 and 12.12 ± 3.78 min in Group 2, respectively. Pre- and postoperative MCV were 0.77 ± 0.30 and 1.16 ± 0.42 mm/min in Group 1 and 0.67 ± 0.16 and 0.89 ± 0.28 mm/min in Group 2, respectively. MCT and MCV were significantly improved postoperatively in both groups ($p < 0.001$). In addition, the postoperative MCT and MCV of Group 1 were significantly better than those of Group 2 ($p < 0.001$). Exposure to cigarette smoking and adenoid size had negative correlations with mucociliary clearance.

CONCLUSIONS:

Otitis media was associated with impaired mucociliary clearance and further studies should be performed to demonstrate the causes of this deficiency.

Int J Pediatr Otorhinolaryngol. 2014 May 2

4. The Role of the Nose in Obstructive Sleep Apnea: A Short Review.

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Abstract

A variety of causes may result in nasal obstruction including allergic and non-allergic rhinitis, anatomic abnormalities, and postoperative nasal packing. There is both an epidemiological and clinical relationship between nasal obstruction and sleep disordered breathing. Subsequently, improving nasal patency via surgical or non-surgical means is expected to relieve sleep disordered breathing. The present review will discuss and review some of the literature related to the pathophysiological interaction of the human nose and sleep disordered breathing and provide a summary of the effects of related intervention trials.

Pneumologie. 2014 May 13



5. The relationship between allergic rhinitis and viral infections.

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Abstract

PURPOSE OF REVIEW:

Viral airway inflammation is one of the most common respiratory conditions. The clinical symptoms of viral rhinitis, especially watery rhinorrhea and nasal congestion, may be similar to the symptoms of allergic rhinitis. Both conditions affect considerable numbers of patients and can lead to many upper airway consequences, especially secondary bacterial infection. Viral infection can also lead to lower respiratory tract conditions such as bronchitis, bronchiolitis, pneumonia and, especially, asthma. This article will review the existing scientific literature examining the linkage and relationship between viral infection and allergic airway disease.

RECENT FINDINGS:

The relationship between viral and allergic airway inflammation can be discussed in terms of the influence of pathogenesis from one condition to the other. Recently, many studies show how early infection can decrease the chance of allergic development. However, there is some evidence demonstrating that viral infection can deteriorate the clinical symptoms of airway allergy.

SUMMARY:

Viral infection can affect the immune system and allergy as both 'enhancing effect' and 'protective effect'. The influential factors depend on the virulence of the viral strain, the innate immune system and the environmental conditions.

Curr Opin Otolaryngol Head Neck Surg. 2014 Jun; 22(3):249-52



6. Current understanding of allergic fungal rhinosinusitis and treatment implications.

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Abstract

PURPOSE OF REVIEW:

The pathophysiology of allergic fungal rhinosinusitis (AFRS) is not fully understood and is in constant evolution. Although initial theories favored an immunoglobulin E-mediated immune response to fungal antigens as having a primary role in the immunopathologic process of AFRS, the purpose of this review is to highlight recent studies that suggest a more complex, epithelial cell-driven immune response being central to the pathophysiology of the disease. Treatment implications are considered.

RECENT FINDINGS:

Recent studies demonstrate a central role of cytokines derived from respiratory epithelial cells, including interleukin (IL)-25, IL-33, and thymic stromal lymphopoietin, in the orchestration of both innate and adaptive T helper 2 immune responses that are important components of the immunopathology of chronic rhinosinusitis with nasal polyposis and AFRS. In addition, the robust Th2 adaptive response may be mediated by both fungal antigens and *Staphylococcus aureus* superantigens.

SUMMARY:

Given the evolving understanding of AFRS pathophysiology, management continues to maintain a broad focus on minimizing the burden of the inflammatory trigger(s) and suppressing the inflammatory cascade. This is primarily accomplished through surgery and corticosteroid therapy. Immunotherapy, antimicrobial therapy, and other immunomodulatory medications may help mediate the disease process as well

Curr Opin Otolaryngol Head Neck Surg. 2014 Jun; 22(3):221-6.

7. The impact of balloon catheter dilation on frequency of sinus surgery in the United States.

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Abstract

PURPOSE:

Endoscopic sinus surgery for patients with chronic rhinosinusitis (CRS) unresponsive to medical therapy has traditionally been performed under general anesthesia and in the operating room. Balloons for catheter dilation of paranasal sinuses were introduced in 2005, allowing sinus surgery to be safely performed either in the operating room or the office care setting, under local anesthesia. This change in care setting has raised concerns of overuse or expanded indications for sinus surgery. This study was thus designed to evaluate changes in surgical volumes in the United States, for the period 2006-2011, and to evaluate the impact of the sinus balloons on surgical practice.

METHODS:

The MarketScan(®) Commercial Claims and Encounter Database was queried for the period 2006 to 2011 using CRS International Classification of Diseases, Ninth Revision codes (473.X) and sinus surgery US-based Common Procedural Terminology (CPT) codes (endoscopic sinus surgery: CPT codes 31254-31294 and 31299; balloon catheter dilation: CPT codes 31295-31297). MarketScan's projection methodology was applied to estimate the nationwide prevalence of CRS and the incidence of sinus surgery. Procedural case mix and total average payment per surgery were analyzed.

RESULTS:

From 2006 to 2011, the yearly prevalence of CRS and sinus surgery volume remained flat with ~430 patients with CRS per 100,000 in the employer-sponsored insured population, of which ~117/100,000 underwent surgery. In 2006, 2.69 paranasal sinuses (95% confidence interval [95% CI]: 2.65-2.71) were treated during each individual sinus surgery, with an additional 1.11 nasal procedures (95% CI: 1.08-1.13) performed concurrently. By 2011, the procedural case mix had expanded to 2.90 sinus (95% CI: 2.87-2.93) and 1.16 nasal procedures (95% CI: 1.14-1.85) per surgery. Payments increased from \$7,011.06 (α =\$6,378.30; β =3.1490) in 2006 to \$9,090.11 (α =\$8,350.20; β =2.9535) in 2011, in line with US medical inflation.

CONCLUSION:

In the study population, approximately 1 in 3.7 patients diagnosed with CRS underwent sinus surgery. This ratio remained constant from 2006 to 2011. There was no evidence that the number of distinct sinus surgeries per 100,000 people increased despite the introduction and utilization of balloon catheter dilation tools that enabled migration of sinus surgery to the office

Med Devices (Auckl). 2014 Apr 28; 7:83-9



8. Complications in the endoscopic and endoscopic-assisted treatment of juvenile nasopharyngeal angiofibroma with intracranial extension.

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Abstract

Introduction: Although it is a rare neoplasm, juvenile nasopharyngeal angiofibroma (JNA) is associated with high rates of morbidity and mortality, with the potential for intracranial extension. Surgical excision is the main treatment. The external approach has largely been replaced by the endoscopic approach in small lesions, and it can be used as a complement in more advanced cases. However, there is no consensus in the literature regarding the complications of surgical treatment of JNAs with intracranial extension. **Aim:** To assess the prevalence of complications in endoscopic or endoscopic-assisted surgical treatment of JNA with minimal intracranial invasion. **Methods:** This was a retrospective cohort study of all patients with JNA with intracranial extension (Radkowski grade IIIa) treated with endoscopic, endoscopic-assisted, and external surgery from January of 1996 to May of 2010. **Results:** Thirteen patients underwent surgery. Endoscopic surgery was performed in three patients, without postoperative complications; endoscopic-assisted surgery in three others, with two instances of complications, and external surgery in seven. **Conclusions:** Operative treatment of nasopharyngeal angiofibroma with intracranial extension is one of the major challenges of ENT and neurosurgical practice. The success rates and low intra- and postoperative complication rates of endoscopic surgery suggest that this route has been gaining ground in the management of Radkowski grade IIIa JNAs.

Braz J Otorhinolaryngol. 2014 Apr;80(2):120-125.

9. Clinical outcomes of endoscopic and open resection of recurrent sinonasal inverted papilloma.

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Abstract



PURPOSE:

The aim of this study was to investigate the effectiveness of endoscopic surgery for recurrent sinonasal inverted papilloma and evaluate the recurrence rates of endoscopic and open resection at a single institution.

METHODS:

This retrospective study was performed on 21 patients with histopathologically confirmed recurrent sinonasal inverted papilloma who underwent an operation in our department from January 1990 to January 2005. The 21 recurrent cases were categorized according to the Krouse staging system into 1 case of stage 1 (5%), 18 cases of stage 2 (85%), 2 cases of stage 3 (10%), and 0 cases of stage 4 (0%). There were 7 patients (33%) who underwent endoscopic resection and 14 patients (67%) who underwent open resection.

RESULTS:

Of the 21 recurrent patients who underwent resection, 4 patients (19%) were found to have recurrence. The mean time to recurrence was 28 months. The recurrence rates of the patients with stage 1, stage 2, and stage 3 were 0%, 17%, and 50%, respectively ($P < 0.05$). Recurrence was observed in 1 patient (14%) in the endoscopic group and 3 patients (21%) in the open group ($P > 0.05$). There was statistical difference in recurrence rates between stage 1 and stage 2 in the endoscopic group ($P < 0.05$) and between stage 2 and stage 3 in the open group ($P < 0.05$). There was no significant difference in recurrence rates between the endoscopic and the open group in stage 2 ($P > 0.05$).

CONCLUSIONS:

Endoscopic and open approaches are both available to achieve radical excision of the recurrent sinonasal inverted papilloma, with similar rates of recurrence. The risk for recurrence is likely related to the Krouse stage of the tumor, with more aggressive tumors having a higher propensity for recurrence. Endoscopic surgery is an effective treatment of recurrent sinonasal inverted papilloma

J Craniofac Surg. 2014 May; 25(3):1090-3.

10. The emergence of the Middle East Respiratory Syndrome coronavirus.

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Abstract

On September 20, 2012, a Saudi Arabian physician reported the isolation of a novel coronavirus from a patient with pneumonia on ProMED-mail. Within a few days, the same virus was detected in a Qatari patient receiving intensive care in a London hospital, a situation reminiscent of the role air travel played in the spread of severe acute respiratory syndrome coronavirus (SARS-CoV) in 2002. SARS-CoV originated in China's Guangdong



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Province and affected more than 8000 patients in 26 countries before it was contained 6 months later. Over a year after the emergence of this novel coronavirus - Middle East respiratory syndrome coronavirus (MERS-CoV) - it has caused 178 laboratory-confirmed cases and 76 deaths. The emergence of a second highly pathogenic coronavirus within a decade highlights the importance of a coordinated global response incorporating reservoir surveillance, high-containment capacity with fundamental and applied research programs, and dependable communication pathways to ensure outbreak containment. Here, we review the current state of knowledge on the epidemiology, ecology, molecular biology, clinical features, and intervention strategies of the novel coronavirus, MERS-CoV.

Pathog Dis. 2014 Mar 2