Reader Digest
Digested by Dr. Tarek Kandil, MD. Consultant, students Hospital, Cairo University

1. Sinus and adenoid inflammation in children with chronic rhinosinusitis and asthma.

Anfuso A1, Ramadan H1, Terrell A1, Demirdag Y2, Walton C2, Skoner DP3, Piedimonte G4.

Abstract

BACKGROUND:

Chronic rhinosinusitis (CRS) and asthma frequently coexist in children and adults. However, the precise pathophysiologic mechanism of this interaction is still poorly understood, especially in children, owing to the lack of direct measurements of mucosal inflammation in the upper airways.

OBJECTIVE:

To determine the pathophysiologic mechanism by analyzing the expression of a large array of inflammatory cytokines and chemokines in the sinus and adenoid tissues surgically removed from pediatric patients with CRS refractory to medical management.

METHODS:

Twenty-eight children 2 to 12 years old diagnosed with CRS with or without asthma and 10 controls were included in this prospective, nonrandomized study. Mucosal expression of 40 inflammatory cytokines was measured with a multiplex assay and was normalized to total tissue protein.

RESULTS:

Compared with children with CRS and without asthma, children with CRS and asthma had significantly higher sinus levels of tumor necrosis factor-α and adenoid levels of epidermal growth factor, eotaxin, fibroblast growth factor-2, growth-related oncogene, and platelet-derived growth factor-AA.

CONCLUSION:

The inflammatory response in the upper airway mucosa of children with asthma and CRS was similar, but more severe, compared with children with CRS without asthma. This observation is consistent with the hypothesis that asthma in these patients is caused or exacerbated by severe upper airway disease and supports the concept that treating sinus disease is paramount in the management of chronic asthma in children using, for the first time, direct measurements of airway inflammation in children

Ann Allergy Asthma Immunol. 2015 Feb; 114(2):103-10

2. A practical approach to the imaging interpretation of sphenoid sinus pathology.

Charles Burke M1, Taheri R2, Bhojwani R3, Singh A4.

Abstract

The goal of this article is to provide a practical approach to the imaging interpretation of sphenoid sinus pathology. Basic anatomy and physiology is reviewed first. This is followed by a discussion of the imaging modalities used to evaluate the sphenoid sinuses and how to differentiate a benign from an aggressive lesion. Finally, disease entities are discussed, with attention to clinical presentation, expected imaging appearance, and treatment. Although the focus is on sphenoid sinus pathology, the concepts presented can be applied to interpretation of disease in any paranasal sinus.

CurrProblDiagnRadiol. 2015 Jul-Aug; 44(4):360-70.

3. [Clinal analysis of 202 nasal bone fractures cases].

[Article in Chinese]

Zhong Z, Fan X, Lian Z, Cheng Z, Zhuang Y.

Abstract

OBJECTIVE:

To evaluate the age, sex, etiology, diagnosis and treatment time of nasal bone fractures.

METHOD:

Clinical data of 202 cases with nasal bone fractures treated in the hospital were retrospectively analysed.

RESULT:

A total of 202 cases, 163 men (80.7%) and 39 women (19. 3%). Fifty-two patients had a relationship with alcohol consumption, and all of them were males. The most frequent reasons of the injury were fight 46. 5% (94 cases) followed by falling-down 21. 3% (43 cases), traffic accidents 19. 3% (39 cases), works related 6. 5% (13 cases), sport injuries 5. 9% (12 cases) and others 0. 5% (1 cases). Patients distribution in seasons were: spring 54 cases (26.7%), summer 42 cases (20.8%), autumn 58 cases (28.7%), winter 48 cases (23. 8%). Diagnosis of nasal bone fractures were made positively by x-ray films in 79. 7% of cases, but 100% by CT. Positive predictive value of CT was superior to that of X-ray films in the diagnosis of nasal bone fracture.

CONCLUSION:

High morbidity of nasal bone fracture was seen in the age group of 20-29 years, and predominantly in male. Fight was found to be the main etiologic factor. We think that CT is necessary for diagnosing nasal bone fracture.

Lin Chung Er Bi Yan HouTou Jing WaiKeZaZhi. 2014 Dec;28(23):1842-4

4. Complex Nasal Fractures in the Adult-A Changing Management Philosophy.

Davis RE1, Chu E1.

Abstract

Acute management of complex nasal fractures in the adult nose is still frequently conducted using closed reduction techniques as first-line therapy. Treatment outcomes from closed reduction are often disappointing and secondary surgical corrections are required in a sizeable subset of patients. In response to the shortcomings of closed fracture manipulation, classic rhinoplasty techniques have been introduced to improve anatomic fracture reduction. Although these techniques improve the accuracy of skeletal reduction, they also weaken the nose, leaving it susceptible to the deformational forces of healing. To provide optimal anatomic fracture reduction and concomitant stabilization of the skeletal framework, we have been using contemporary strategies derived from open structure rhinoplasty and extracorporeal septal reconstruction for initial fracture treatment. Using wide-field exposure with open rhinoplasty, these strategies provide optimal fracture reduction and rigid stabilization of the septal L-strut using suture-based fixation and structural grafting techniques. The result is unsurpassed contour restoration and lasting architectural stability of the nose. When combined with power-driven instruments to cut, shape, mobilize, and create osseous suture holes, open structure stabilization of the disrupted skeletal framework establishes a new benchmark in acute fracture management

Facial Plast Surg. 2015 Jun; 31(3):201-15.

5. Update on epistaxis.

Douglas R1, Wormald PJ.

Abstract

PURPOSE OF REVIEW:

The treatment of epistaxis has undergone significant changes in recent years. Gone are the days when patients had an uncomfortable posterior nasal pack inserted then spent several days on the ward only to bleed again on its removal New packing devices, ingenious haemostatic agents and endoscopic surgical approaches have been developed to provide a variety of effective and well-tolerated treatment options. This paper will discuss the evolution and utility of these devices and techniques for managing difficult epistaxis patients.

RECENT FINDINGS:

Modern packing devices are much easier to insert than traditional gauze packs and are no less effective. A major advance in the management of posterior epistaxis has been the development of the technique of endoscopic ligation.

SUMMARY:

Anterior epistaxis is generally easy to control with local cautery. The optimal management of posterior epistaxis is to insert a pack to control the bleeding before taking the patient to the operating theatre to ligate the sphenopalatine artery endoscopically

CurrOpinOtolaryngol Head Neck Surg. 2007 Jun;15(3):180-3

6. Antileukotrienes in Upper Airway Inflammatory Diseases.

Cingi C1,2, Muluk NB3, Ipci K4, Şahin E5.

Abstract

Leukotrienes (LTs) are a family of inflammatory mediators including LTA4, LTB4, LTC4, LTD4, and LTE4. By competitive binding to the cysteinyl LT1 (CysLT1) receptor, LT receptor antagonist drugs, such as montelukast, zafirlukast, and pranlukast, block the effects of CysLTs, improving the symptoms of some chronic respiratory diseases, particularly bronchial asthma and allergic rhinitis. We reviewed the efficacy of antileukotrienes in upper airway inflammatory diseases. An update on the use of antileukotrienes in upper airway diseases in children and adults is presented with a detailed literature survey. Data on LTs, antileukotrienes, and antileukotrienes in chronic rhinosinusitis and nasal polyps, asthma, and allergic rhinitis are presented. Antileukotriene drugs are classified into two groups: CysLT receptor antagonists (zafirlukast, pranlukast, and montelukast) and LT synthesis inhibitors (5-lipoxygenase inhibitors such as zileuton, ZD2138, Bay X 1005, and MK-0591). CysLTs have important proinflammatory and profibrotic effects that contribute to the extensive hyperplastic rhinosinusitis and nasal polyposis (NP) that characterise these disorders. Patients who receive zafirlukast or zileuton tend to show objective improvements in, or at least stabilisation of, NP. Montelukast treatment may lead to clinical subjective improvement in NP. Montelukast treatment after sinus surgery can lead to a significant reduction in eosinophilic cationic protein levels in serum, with a beneficial effect on nasal and pulmonary symptoms and less impact in NP. Combined inhaled corticosteroids and long-acting β-agonists treatments are most effective for preventing exacerbations among paediatric asthma patients. Treatments with medium- or high-dose inhaled corticosteroids, combined inhaled corticosteroids and LT receptor antagonists, and low-dose inhaled corticosteroids have been reported to be equally effective. Antileukotrienes have also been reported to be effective for allergic rhinitis

Curr Allergy Asthma Rep. 2015 Nov;15(11):64.

7. [ALLERGEN IMMUNOTHERAPY IN CHILDREN].

[Article in Japanese]
Fujisawa T1.

Abstract

Children are thought to have high plasticity in the immune system. Thus, it is expected that allergen immunotherapy for children may have higher efficacy than adults and has real disease-modifying potential to allergic diseases. For clinical efficacy in ameliorating allergic symptoms, however, current systematic reviews have not shown any superior effect in children, partly because of less number of studies in this age group. On the other hand, preventive effects against asthma inception in children with allergic rhinitis and sensitization "spreading" to new allergens have been reported, implicating that allergen immunotherapy has a potential to stop "allergy march" in children. To make the therapy more effective, it is preferable to start it as early as possible, hopefully in infancy. But it is still difficult at present because of relatively frequent adverse events and invasive manner of administering allergen extracts for young children. We need safer and more effective methods in performing immunotherapy for children.

Arerugi. 2015 Jun 1; 64(6):787-794

8. Sublingual Immunotherapy for Allergic Fungal Sinusitis.

Melzer JM1, Driskill BR2, Clenney TL2, Gessler EM2.

Abstract

Allergic fungal sinusitis (AFS) is a condition that has an allergic basis caused by exposure to fungi in the sinonasal tract leading to chronic inflammation. Despite standard treatment modalities, which typically include surgery and medical management of allergies, patients still have a high rate of recurrence. Subcutaneous immunotherapy (SCIT) has been used as adjuvant treatment for AFS. Evidence exists to support the use of sublingual immunotherapy (SLIT) as a safe and efficacious method of treating allergies, but no studies have assessed the utility of SLIT in the management of allergic fungal sinusitis. A record review of cases of AFS that are currently or previously treated with sublingual immunotherapy from 2007 to 2011 was performed. Parameters of interest included serum IgE levels, changes in symptoms, Lund-McKay scores, decreased sensitization to fungal allergens associated with AFS, and serum IgE levels. Ten patients with diagnosed AFS were treated with SLIT. No adverse effects related to the use of SLIT therapy were identified. Decreases in subjective complaints, exam findings, Lund-McKay scores, and serum IgE levels were observed. Thus, sublingual immunotherapy appears to be a safe adjunct to the management of AFS that may improve patient outcomes.

Ann OtolRhinolLaryngol. 2015 Oct; 124(10):782-7.

9. Endoscopic treatment of inverted papilloma attached in the frontal sinus/recess.

Adriaensen GF1, van der Hout MW1, Reinartz SM1, Georgalas C1, Fokkens WJ1.

Abstract

BACKGROUND:

Inverted papilloma (IP) is a benign sinonasal tumour for which endoscopic surgery, with complete removal of the underlying and surrounding mucoperiosteum at the attachment site followed by drilling and/or coagulation of this area, is the treatment of choice. This can be challenging in the frontal sinus.

OBJECTIVES:

To report on the outcome of treatment for IPs involving the frontal sinus. To propose the possible use of topical 5-fluorouracil 5% (5-FU) in the postoperative management of challenging IPs.

METHODS:

This is a retrospective cohort evaluation of patients with IPs attached in the frontal sinus or in the frontal recess and growing into the frontal sinus. Data on primary or revision surgery, uni- or bilaterality, attachment site, surgical procedure, 5-FU usage, recurrence and follow-up are provided. The end points are disease-free follow-up in months and recurrence.

RESULTS:

Twenty cases, including fifteen revision cases, were retrieved over a period of ten years. All cases were treated endoscopically. Two cases recurred (10%) and the intervention was repeated. In eight cases, 5-FU was applied at the end of surgery. None of these cases recurred. The mean follow-up after the last intervention was 42 months (standard deviation (SD) 22.1).

CONCLUSION:

IP involving the frontal sinus is a surgical challenge that can be successfully addressed endoscopically. The topical application of 5-FU could have a place in postoperative treatment when it is difficult to be absolutely sure that all diseased mucoperichondrium or mucoperiosteum at the attachment site(s) has been completely removed.

Rhinology. 2015 Sep 7

10. Olfactory exploration: State of the art.

Nguyen DT1, Rumeau C2, Gallet P2, Jankowski R2.

Abstract

Olfactory disorders are fairly common in the general population. Exploration, on the other hand, is seldom performed by ENT specialists, even in reference centers. There may be three reasons for this: this particular sensory modality may seem unimportant to patients and/or physicians; available treatments may be underestimated, although admittedly much yet remains to be done; and olfactory exploration is not covered by the national health insurance scheme in France. Advances in research in recent decades have shed light on olfactory system functioning. At the same time, several techniques have been developed to allow maximally objective olfactory assessment, as olfactory disorder is sometimes the first sign of neurodegenerative pathology. Moreover, objective olfactory assessment may be needed in a medico-legal context. The present paper updates the techniques currently available for olfactory exploration.

Eur Ann Otorhinolaryngol Head Neck Dis. 2015 Sep 15. pii: S1879-7296(15)00138-6