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

1. Allergic rhinitis and asthma: epidemiology and common pathophysiology.

Khan DA1.

Abstract

Allergic rhinitis and asthma are common diseases that frequently occur together. This concept has been referred to in the literature as united airway disease. Epidemiological studies have shown that the majority of patients with asthma have concomitant rhinitis and the presence of rhinitis is an increased risk factor for development of asthma. Patients with asthma and rhinitis share common physiology including heightened bronchial hyperresponsiveness and heightened reactivity to a variety of stimuli. Immunopathology of allergic rhinitis is also similar with the predominance of T-helper type 2 inflammation and tissue eosinophilia. Although several mechanisms have been proposed to explain the united airway theory, some of the best lines of evidence suggest that local airway inflammation can result in a systemic inflammatory response. Pharmacotherapeutic studies have shown that the treatment of rhinitis can improve asthma and vice versa. Nevertheless, systemic approaches such as immunotherapy lead to better outcomes for treating both disease states simultaneously. This article will focus on the data supporting the common epidemiology, shared pathophysiology, and therapeutic interventions aimed at allergic rhinitis and asthma as united airway diseases.

Allergy Asthma Proc. 2014 Sep-Oct;35(5):357-61.

2. Intranasal steroids and the myth of mucosal atrophy: a systematic review of original histological assessments.

Verkerk MM1, Bhatia D, Rimmer J, Earls P, Sacks R, Harvey RJ.

Abstract

BACKGROUND:

Intranasal corticosteroids (INCSs) are well established in the treatment of allergic rhinitis, chronic rhinosinusitis, and nasal polyposis. Although reversible atrophy of keratinized skin is seen with corticosteroids, the respiratory mucosa is histologically very different and but concerns remain among patients and some health-care professionals over local side effects on nasal respiratory mucosa. A systematic review and meta-analysis were performed of the available evidence for nasal mucosal atrophy as an adverse effect of INCSs in patients with sinonasal disease.

METHODS:

A systematic search of Embase (1974-) and Medline (1946-) databases to September 27, 2013 was performed. Inclusion criteria selected any study where the histopathology of nasal mucosa was assessed in patients with sinonasal disease using intranasally administered corticosteroids with or without a control group.

RESULTS:

Twenty-three hundred sixty-four publications were retrieved with a subsequent full text review of 149 publications for 34 articles that met the selection criteria. These articles included 11 randomized controlled trials, 5 cohorts, and 20 case series. Duration of treatment varied from 5 days to 5.5 years. "Mucosal atrophy" as an outcome was reported in 17 studies. The definition of "mucosal atrophy" was highly variable with a definition given in only 10 studies. One hundred thirty-six patients were represented in controlled studies of atrophy with only one study reporting the event in both groups with an odds ratio of "mucosal atrophy" at 0.51 (95% CI, 0.09-3.11; p = 0.47).

CONCLUSION:

The concept of nasal mucosal atrophy is poorly defined and there is no histological evidence for deleterious effects from INCS use on human nasal mucosa

Am J Rhinol Allergy. 2015 Jan-Feb; 29(1): 3-18.

3. Local allergic rhinitis: concept, clinical manifestations, and diagnostic approach.

Rondón C1, Fernandez J, Canto G, Blanca M.

Abstract

Local allergic rhinitis is a newly described type of rhinitis involving nasal production of specific immunoglobulin (slg) E antibodies in the absence of atopy. It can affect patients previously diagnosed with non-allergic rhinitis. Evidence for this entity is supported by clinical symptoms, local production of sIgE, a type 2 helperT cell inflammatory pattern in nasal secretions during natural exposure to aeroallergens, and a positive response to nasal allergen provocation with local nasal production of sIgE to aeroallergens, tryptase, and eosinophil cationic protein (ECP). Based on these new findings, an advanced diagnostic approach is proposed in patients with symptoms suggestive of allergic rhinitis but negative results in skin prick test and serum sIgE determination. Detection of local sIgE in nasal secretions during natural exposure to aeorallergens and a positive nasal allergen provocation test with local production of tryptase, ECP, and sIgE are useful for detecting patients with local allergic rhinitis.

J InvestigAllergolClinImmunol. 2010;20(5): 364-71; quiz 2 p following 371

4. Study of hemostasis procedures for posterior epistaxis.

Iimura J1, Hatano A2, Ando Y3, Arai C3, Arai S3, Shigeta Y3, Kojima H3, Otori N3, Wada K3.

Abstract

OBJECTIVE:

Hemostasis is difficult in patients with bleeding emanating from the deep regions in the nasal cavity; however, there is no standard treatment method. We studied hemostasis procedures in patients who visited our outpatient department and presented with idiopathic epistaxis extending from the posterior nasal cavity to Kiesselbach's area.

METHODS:

The subjects were patients with epistaxis who visited our hospital between June 2008 and May 2010. We asked specific questions at the time of the hospital visit and examined patients using a nasal speculum, a flexible endoscope, and a rigid endoscope (0 or 70 degree) to identify bleeding sites. Hemostasis using electrocoagulation was selected as the first-line therapy for patients in whom a bleeding point had been identified, whereas hemostasis using a gauze tampon was performed in patients in whom the bleeding point was unknown. The subjects were analyzed by multivariate logistic regression analysis.

RESULTS:

The bleeding point was unknown in most cases of recurrent posterior epistaxis. Electrocoagulation was the best hemostasis procedure. Identifying the bleeding points as much as possible and performing electrocoagulation at these sites was the preferred procedures.

CONCLUSION:

We propose the treatment procedure for refractory epistaxis. When it is difficult to identify a bleeding point in a patient with refractory epistaxis due to a deviated nasal septum, a bleeding point should be identified after septoplasty; for bleeding from the sphenopalatine artery region, electrocoagulation or endoscopic cauterization of the sphenopalatine artery should be performed.

AurisNasus Larynx. 2015 Oct 30. pii: S0385-8146(15)00223-0

5. Management Strategies for Skull Base Inverted Papilloma.

Grayson JW1, Khichi SS1, Cho DY1, Riley KO2, Woodworth BA3.

Abstract

OBJECTIVE:

Inverted papilloma attached to the ventral skull base presents a surgical dilemma because surgical removal of the bony pedicle is critical to decrease risk of recurrence. The objective of this study is to evaluate the effectiveness of endoscopic management of skull base inverted papilloma.

STUDY DESIGN:

Case series with planned data collection.

SETTING:

Tertiary medical center.

SUBJECTS:

Patients with skull base inverted papilloma.

METHODS:

Over 7 years, 49 patients with skull base inverted papilloma were referred for surgical resection. Demographics, operative technique, pathology, complications, recurrence, and postoperative follow-up were evaluated.

RESULTS:

Average age at presentation was 57 years. Twenty-six patients (53%) had prior attempts at resection elsewhere, and 5 had squamous cell carcinoma (SCCA) arising in an inverted papilloma. Six patients (12%) suffered major complications, including skull base osteomyelitis in 2 previously irradiated patients, cerebrospinal fluid leak with pneumocephalus (n = 1), meningitis (n = 1), invasive fungal sinusitis (n = 1), and cerebrovascular accident (n = 1). The mean disease-free interval was 29 months (range, 10-78 months). One patient with SCCA recurred in the nasopharynx (overall 2% recurrence rate). He is disease-free 3 years following endoscopic nasopharyngectomy. Three patients with SCCA had endoscopic resection of the skull base, while 1 subject with inverted papilloma pedicled on the superior orbital roof had an osteoplastic flap in conjunction with a Draf III procedure. All others received endoscopic resection.

CONCLUSIONS:

Removal of the bony pedicle resulted in excellent local control of skull base inverted papillomas. Our experience demonstrates that disease eradication with limited morbidity is attainable with this approach.

Otolaryngol Head Neck Surg. 2016 Mar 29

6. Managing acute invasive fungal sinusitis.

Dwyhalo KM1, Donald C, Mendez A, Hoxworth J.

Abstract

Acute invasive fungal sinusitis is the most aggressive form of fungal sinusitis and can be fatal, especially in patients who are immunosuppressed. Early diagnosis and intervention are crucial and potentially lifesaving, so primary care providers must maintain a high index of suspicion for this disease. Patients may need to be admitted to the hospital for IV antifungal therapy and surgical debridement

JAAPA. 2016 Jan;29(1):48-53.

7. Comprehensive review on endonasal endoscopic sinus surgery.

Weber RK1, Hosemann W2.

Abstract

Endonasal endoscopic sinus surgery is the standard procedure for surgery of most paranasal sinus diseases. Appropriate frame conditions provided, the respective procedures are safe and successful. These prerequisites encompass appropriate technical equipment, anatomical oriented surgical technique, proper patient selection, and individually adapted extent of surgery. The range of endonasal sinus operations has dramatically increased during the last 20 years and reaches from partial uncinectomy to pansinus surgery with extended surgery of the frontal (Draf type III), maxillary (grade 3-4, medial maxillectomy, prelacrimal approach) and sphenoid sinus. In addition there are operations outside and beyond the paranasal sinuses. The development of surgical technique is still constantly evolving. This article gives a comprehensive review on the most recent state of the art in endoscopic sinus surgery according to the literature with the following aspects: principles and fundamentals, surgical techniques, indications, outcome, postoperative care, nasal packing and stents, technical equipment.

GMS Curr Top Otorhinolaryngol Head Neck Surg. 2015 Dec 22;14:Doc08.

8. Intranasal T-LysYal® as adjunctive therapy for patients after functional endoscopic sinus surgery.

Gelardi M1, Taliente S1, Fiorella ML1, Quaranta N1, De Candia N1, Russo C2, Mola P3, Ciofalo A4, Zambetti G4, Cantone E5, Arnone F6, Macchi A7, Rosso P8, Ciprandi G9.

Abstract

Functional Endoscopic Sinus Surgery (FESS) is a common day surgery technique for upper airway disorders. Hyaluronic acid (HA) is a fundamental component of the human connective tissue. HA may exert reparative, anti-inflammatory and immune-modulating activities. Recently, a new intranasal HA formulation has been proposed: a supramolecular system containing lysine hyaluronate, thymine and sodium chloride (T-LysYal®). This randomized study investigated whether intranasal T-LysYal® (RinoLysYal®, Farmigea, Italy) was able to reduce symptom severity, endoscopic features, and nasal cytology in 83 patients (49 males and 34 females mean age 45.4±6.2 years) treated with FESS. All patients were treated with isotonic saline solution for 4 weeks, and a sub-group (active group) was also treated with intranasal T-LysYal®. Patients were visited at baseline, after treatment, and after 4-week follow-up. Intranasal T-LysYal® treatment significantly reduced the quote of patients with symptoms, endoscopic features, and inflammatory cells in comparison to isotonic solution. In conclusion, the present study demonstrates that intranasal T-LysYal® is able to significantly improve patients after FESS and its effect is long lasting.

J BiolRegulHomeost Agents. 2016 Jan-Mar;30(1):277-84.

9. An algorithmic approach to the evaluation and treatment of olfactory disorders.

Daramola OO1, Becker SS.

Abstract

PURPOSE OF REVIEW:

To review the current evidence in diagnosing olfactory disorders and suggest an algorithmic approach to patients with relevant complaints.

RECENT FINDINGS:

New literature suggests that the incidence of olfactory loss increases with age. Age-associated olfactory loss is often multifactorial and requires careful history and physical exam. Psychophysical tests have a role in screening patients at risk for Parkinson's and Alzheimer's disease, but there is lack of evidence regarding timing and patient selection. Prediction of olfactory improvement in patients with chronic rhinosinusitis (CRS) is difficult with variable results from different studies. Olfactory training is suggested to be an emerging modality in patients with post infectious olfactory loss.

SUMMARY:

There is no standard treatment for olfactory loss. Each patient must be approached individually based on the suspected cause. Patients with CRS may require medical management and surgical treatment for alleviation of their olfactory dysfunction

CurrOpinOtolaryngol Head Neck Surg. 2015 Feb; 23(1):8-14.

10. Nasal polyps in patients with asthma: prevalence, impact, and management challenges.

Langdon C1, Mullol J2.

Abstract

Patients with chronic rhinosinusitis with nasal polyps (CRSwNP) often have coexisting asthma under the concept of "United Airway Disease", being the combination of both diseases, which is one of the most challenging phenotypes to treat. Although clinicians have recognized this difficult-to-treat phenotype for many years, it remained poorly characterized. There is increasing epidemiological evidence linking chronic rhinosinusitis and asthma, but a good understanding of the pathophysiology and the combined management is still lacking. Bronchial asthma is more prevalent in patients who suffer chronic rhinosinusitis, while asthmatic patients have a greater prevalence of CRSwNP than patients without asthma. The effect of CRSwNP treatment, whether medical or surgical, in asthma is today less controversial after some studies have shown improvement of asthma after medical and/or surgical treatment of CRSwNP. However, direct comparisons between surgical and medical treatments are limited. Further randomized clinical trials are, however, still needed to better understand the management when both asthma and CRSwNP occur together. This review aims at summarizing the prevalence, impact, and management challenges regarding both asthma and CRSwNP

J Asthma Allergy. 2016 Mar 14; 9:45-53.