Pan Arab Rhinology Society
PARS Reader's Digest

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

1. Congenital nasal obstruction in infants: A retrospective study and literature review.

Patel VA1, Carr MM2.

Abstract

OBJECTIVES:
To identify etiologies of congenital nasal obstruction and describe clinical practice patterns in the evaluation, diagnosis, and treatment of symptomatic infants.

METHODS:
An electronic chart review from 1/1/2006-10/1/2016 for all patients with a diagnosis of nasal obstruction within the first six months of life using ICD-9 and 10 codes 478.19 and J34.89.

RESULTS:
A total of 34 patients were evaluated by the Division of Otolaryngology for this chief complaint. 38% of neonates were born premature and 32% were admitted to the NICU at birth, with a female-to-male ratio of 1:1.4. Presenting signs and symptoms included: stertor (44%), cyanosis (24%), stridor (24%), retractions (21%), rhinorrhea (21%), apnea (12%), and epistaxis (8%). 47% of patients received ancillary radiographic imaging (CT or MRI). Diagnoses observed include: midnasal stenosis (38%), pyriform aperture stenosis (21%), choanal stenosis (12%), dacryocystocele (6%), microrhinia (6%), septal deviation (6%), nasopharyngeal reflux (3%), nasopharyngeal teratoma (3%), neonatal rhinitis (3%), and pharyngeal wall collapse (3%). 71% of patients were noted to have bilateral nasal obstruction. 41% of infants were found to have an associated ear, nose, and throat anomaly. 15% of patients required surgical intervention. The mean time-to-resolution was 240 days.

CONCLUSION:
Congenital nasal obstruction has a broad differential diagnosis: the timing, onset, and laterality of symptoms can provide insights into the source of upper airway compromise. Most infants improve through conservative management (i.e. suctioning, humidification) and medical therapies (i.e. intranasal drops, nasal sprays).

Int J Pediatr Otorhinolaryngol. 2017 Aug;99:78-84.

2. Nasal Septal Hematoma.

Gupta G1, Mahajan K1.

Excerpt

Nose is the most commonly injured facial structure. Most nasal injuries do not require immediate intervention, but trauma is resulting in septal hematoma is an exception. A nasal septal hematoma is a rare but serious complication of nasal or facial trauma. It refers to the collection of blood under the mucoperichondrium or mucoperiosteum of nasal septal cartilage or bone. It may be unilateral or bilateral, with latter being more frequent in the setting of severe trauma.

StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2017-.
2017 Nov 21.

3. Posterior epistaxis: Common bleeding sites and prophylactic electrocoagulation.

Liu J1, Sun X, Guo L, Wang D.

Abstract
Posterior epistaxis is a frequent emergency, and the key to efficient management is identification of the bleeding point. We performed a retrospective study of 318 patients with posterior epistaxis treated with endoscopic bipolar electrocautery during a 4-year period. Distribution of the bleeding sites was recorded. Patients with no definite bleeding sites in the first operation were assigned to Group A (n = 39) and Group B (n = 34). Patients in Group A were only observed in the ward. Patients in Group B were given prophylactic electrocoagulation at the common bleeding points. Of the 318 patients, bleeding sites were successfully identified and coagulated in 263 patients. All of them were located posteriorly, with 166 on the lateral nasal wall, 86 on the septum, and 11 on the anterior face of the sphenoid sinus. The rebleeding rate of Group B (8.8%) was lower than that of Group A (38.5%) ($p < 0.01$).

Ear Nose Throat J. 2016 Oct-Nov;95(10-11):E18-E22

4. The Role of Allergy in Chronic Rhinosinusitis.

Halderman AA1, Tully LJ2

Abstract

The role of allergy in chronic rhinosinusitis (CRS) has long been debated and remains controversial. The 2 diseases frequently co-occur; however, direct causality has never been proved. The literature is largely mixed as to the manner and degree by which allergy contributes to CRS and this is in large part due to heterogeneity in the definitions of allergy and of CRS. In this review, the potential role of allergy in the disease processes of CRS without polyps, CRS with polyps, and allergic fungal rhinosinusitis is discussed.

Otolaryngol Clin North Am. 2017 Dec;50(6):1077-1090

5. Odontogenic sinusitis: developments in diagnosis, microbiology, and treatment.

Workman AD1, Granquist EJ2, Adappa ND1.

Abstract
PURPOSE OF REVIEW:
Odontogenic causes of sinusitis are frequently missed; clinicians often overlook odontogenic disease whenever examining individuals with symptomatic rhinosinusitis. Conventional treatments for chronic rhinosinusitis (CRS) will often fail in odontogenic sinusitis. There have been several recent developments in the understanding of mechanisms, diagnosis, and treatment of odontogenic sinusitis, and clinicians should be aware of these advances to best treat this patient population.

RECENT FINDINGS:
The majority of odontogenic disease is caused by periodontitis and iatrogenesis. Notably, dental pain or dental hypersensitivity is very commonly absent in odontogenic sinusitis, and symptoms are very similar to those seen in CRS overall. Unilaterality of nasal obstruction and foul nasal drainage are most suggestive of odontogenic sinusitis, but computed tomography is the gold standard for diagnosis. Conventional panoramic radiographs are very poorly suited to rule out odontogenic sinusitis, and cannot be relied on to identify disease. There does not appear to be an optimal sequence of treatment for odontogenic sinusitis; the dental source should be addressed and ESS is frequently also necessary to alleviate symptoms.

SUMMARY:
Odontogenic sinusitis has distinct pathophysiology, diagnostic considerations, microbiology, and treatment strategies whenever compared with chronic rhinosinusitis. Clinicians who can accurately identify odontogenic sources can increase efficacy of medical and surgical treatments and improve patient outcomes.

Curr Opin Otolaryngol Head Neck Surg. 2018 Feb;26(1):27-33.

6. Histopathological Diagnosis of Fungal Sinusitis and Variety of its Etiologic Fungus.

Kimura M1.

Abstract

Fungal sinusitis is divided into two categories depending on mucosal invasion by fungus, i.e., invasive and noninvasive. Invasive fungal sinusitis is further divided into acute and chronic disease based on time course. Noninvasive fungal sinusitis includes chronic noninvasive sinusitis (fungal ball type) and allergic fungal sinusitis. Chronic noninvasive sinusitis is the most predominant fungal sinusitis in Japan, followed by allergic fungal sinusitis. Invasive fungal sinusitis is rare. Hyphal tissue invasion is seen in invasive fungal sinusitis. Acute invasive fungal sinusitis demonstrates hyphal vascular invasion while chronic invasive fungal sinusitis usually does not. Fungal tissue invasion is never found in noninvasive sinusitis. A fungal ball may exist adjacent to sinus mucosa, but its hyphae never invade the mucosa. Fungal balls sometimes contain conidial heads and calcium oxalate, which aid in identifying the fungus in the tissue. Allergic fungal sinusitis is characterized by allergic mucin that is admixed with numerous eosinophils and sparsely scattered fungal elements. Histopathology is important in classifying fungal sinusitis, especially in confirming tissue invasion by the fungus.

Med Mycol J. 2017;58(4):J127-J132.

7. Association of Krouse Classification for Sinonasal Inverted Papilloma With Recurrence: A Systematic Review and Meta-analysis.

Lisan Q1,2, Moya-Plana A3, Bonfils P1,2.

Abstract

Importance:

The risk factors for the recurrence of sinonasal inverted papilloma are still unclear.

Objective:

To investigate the potential association between the Krouse classification and the recurrence rates of sinonasal inverted papilloma.

Data Sources:

The EMBASE and MEDLINE databases were searched for the period January 1, 1964, through September 30, 2016, using the following search strategy: (paranasal sinuses [Medical Subject Headings (MeSH) terms] OR sinonasal [all fields]) AND (inverted papilloma [MeSH terms] OR (inverted [all fields] AND papilloma [all fields]).

Study Selection:
The inclusion criteria were (1) studies including sinonasal inverted papilloma only and no other forms of papillomas, such as oncocytic papilloma; (2) minimum follow-up of 1 year after the surgery; and (3) clear report of cases (recurrence) and controls according to the Krouse classification system or deducible from the full-text article. Literature search was performed by 2 reviewers. Of the 625 articles retrieved in the literature, 97 full-text articles were reviewed. Observational cohort studies or randomized controlled trials were included, and the following variables were extracted from full-text articles: authors of the study, publication year, follow-up data, and number of cases (recurrence) and controls (no recurrence) in each of the 4 stages of the Krouse classification system.

Data Extraction and Synthesis:
The Meta-analysis of Observational Studies in Epidemiology (MOOSE) guidelines were followed. Odds ratios (ORs) and 95% CIs were estimated, and data of included studies were pooled using a random-effects model.

Main Outcomes and Measures:
The main outcome was recurrence after surgical removal of sinonasal inverted papilloma according to each stage of the Krouse classification system.

Results:
Thirteen studies comprising 1787 patients were analyzed. A significant increased risk of recurrence (51%) was highlighted for Krouse stage T3 disease when compared with stage T2 (pooled OR, 1.51; 95% CI, 1.09-2.09). No significant difference in risk of recurrence was found between Krouse stages T1 and T2 disease (pooled OR, 1.14; 95% CI, 0.63-2.04) or between stages T3 and T4 (pooled OR, 1.27; 95% CI, 0.72-2.26).

Conclusions and Relevance:
Inverted papillomas classified as stage T3 according to the Krouse classification system presented a 51% higher likelihood of recurrence. Head and neck surgeons must be aware of this higher likelihood of recurrence when planning and performing surgery for sinonasal inverted papilloma.

JAMA Otolaryngol Head Neck Surg. 2017 Nov 1;143(11):1104-1110.

8. MR Imaging Criteria for the Detection of Nasopharyngeal Carcinoma: Discrimination of Early-Stage Primary Tumors from Benign Hyperplasia.

King AD1, Wong LYS2, Law BKH2, Bhatia KS3, Woo JKS4, Ai QY2, Tan TY5, Goh J6, Chuah KL7, Mo FKF8, Chan KCA9, Chan ATC8, Vlantis AC4.

Abstract

BACKGROUND AND PURPOSE:

MR imaging can detect nasopharyngeal carcinoma that is hidden from endoscopic view, but for accurate detection carcinoma confined within the nasopharynx (stage T1) must be distinguished from benign hyperplasia of the nasopharynx. This study aimed to document the MR imaging features of stage T1 nasopharyngeal carcinoma and to attempt to identify features distinguishing it from benign hyperplasia.

MATERIALS AND METHODS:

MR images of 189 patients with nasopharyngeal carcinoma confined to the nasopharynx and those of 144 patients with benign hyperplasia were reviewed and compared in this retrospective study. The center, volume, size asymmetry (maximum percentage difference in area between the right and left nasopharyngeal halves), signal intensity asymmetry, deep mucosal white line (greater contrast enhancement along the deep tumor margin), and absence/distortion of the adenoidal septa were evaluated. Differences were assessed with logistic regression and the $\chi 2$ test.

RESULTS:

The nasopharyngeal carcinoma center was lateral, central, or diffuse in 134/189 (70.9%), 25/189 (13.2%), and 30/189 (15.9%) cases, respectively. Nasopharyngeal carcinomas involving the walls showed that a deep mucosal white line was present in 180/183 (98.4%), with a focal loss of this line in 153/180 (85%) cases. Adenoidal septa were absent or distorted in 111/111 (100%) nasopharyngeal carcinomas involving the adenoid. Compared with benign hyperplasia, nasopharyngeal carcinoma had a significantly greater volume, size asymmetry, signal asymmetry, focal loss of the deep mucosal white line, and absence/distortion of the adenoidal septa ($P < .001$). Although size asymmetry was the most accurate criterion (89.5%) for nasopharyngeal carcinoma detection, use of this parameter alone would have missed 11.9% of early-stage T1 nasopharyngeal carcinomas.

CONCLUSIONS:

MR imaging features can help distinguish stage T1 nasopharyngeal carcinoma from benign hyperplasia in most cases.

AJNR Am J Neuroradiol. 2017 Dec 28.

9. Endoscopic endonasal approach for mass resection of the pterygopalatine fossa.

Plzák J1, Kratochvil V1, Kešner A1, Šurda P2, Vlasák A3, Zvěřina E1.

Abstract
OBJECTIVES:
Access to the pterygopalatine fossa is very difficult due to its complex anatomy. Therefore, an open approach is traditionally used, but morbidity is unavoidable. To overcome this problem, an endoscopic endonasal approach was developed as a minimally invasive procedure. The surgical aim of the present study was to evaluate the utility of the endoscopic endonasal approach for the management of both benign and malignant tumors of the pterygopalatine fossa.

METHOD:
We report our experience with the endoscopic endonasal approach for the management of both benign and malignant tumors and summarize recent recommendations. A total of 13 patients underwent surgery via the endoscopic endonasal approach for pterygopalatine fossa masses from 2014 to 2016. This case group consisted of 12 benign tumors (10 juvenile nasopharyngeal angiofibromas and two schwannomas) and one malignant tumor.

RESULTS:
No recurrent tumor developed during the follow-up period. One residual tumor (juvenile nasopharyngeal angiofibroma) that remained in the cavernous sinus was stable. There were no significant complications. Typical sequelae included hypesthesia of the maxillary nerve, trismus, and dry eye syndrome.

CONCLUSION:
The low frequency of complications together with the high efficacy of resection support the use of the endoscopic endonasal approach as a feasible, safe, and beneficial technique for the management of masses in the pterygopalatine fossa.

Clinics (Sao Paulo). 2017 Oct;72(9):554-561.

10. Olfaction in chronic rhinosinusitis: comparing two different endonasal steroid application methods.

Poletti SC1, Batashev I1, Reden J1, Hummel T2.

Abstract
Limited olfactory improvement after topical steroid therapy in chronic rhinosinusitis (CRS) patients might result from restricted drug access to the olfactory cleft. The aim of our study was to investigate the difference between two methods to topically administer steroids with respect to

olfaction: (1) conventional nasal spray and (2) a device using pressure and vibration to distribute steroid aerosol endonasally. A prospective study was performed in patients with olfactory impairment due to chronic rhinosinusitis with and without nasal polyps. While the first group used the conventional dexamethasone nasal spray, the second group used the device over a period of 12 days. Olfactory testing was done at 0, 2, and 8 weeks using Sniffin' Sticks test. A significant olfactory improvement was found after 2 weeks of treatment with either steroid ($p = 0.005$). However, there was no significant difference between the different methods of steroid application. There is a significant olfactory improvement in CRS patients following topical dexamethasone therapy, but no obvious superiority of one of the two ways to administer the steroid.

Eur Arch Otorhinolaryngol. 2017 Mar;274(3):1431-1435