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

1. Current Updates on Choanal Atresia.

Kwong KM1.

Abstract

Choanal atresia (CA) is a relatively uncommon but well-recognized condition characterized by the anatomical closure of the posterior choanae in the nasal cavity. Since the original description back in the early eighteenth century, there have been controversies regarding its exact pathogenesis, the optimal surgical approach, and the use of adjunct treatments such as post-surgical stenting and anti-neoplastic agents, despite of abundant literature available. The emergence and development of new technologies play a significant role in the management of this condition. This review provides a comprehensive clinical update on CA and identifies areas for future study based on the existing available literature.

Front Pediatr. 2015 Jun 9; 3: 52

2. Non-invasive Assessment and Symptomatic Improvement of the Obstructed Nose (NASION): a physiology-based patient-centred approach to treatment selection and outcomes assessment in nasal obstruction.

Nouraei S1, Virk JS1, Kanona H1, Zatonski M1, Koury EF1, Chatrath P1.

Abstract

OBJECTIVES:

To evaluate the impact of selecting treatment for nasal obstruction on the basis of a structured physiology-based assessment protocol on patient outcomes.

DESIGN:

Prospective longitudinal study.

SETTING:

District general hospital.

PARTICIPANTS:

A population of 71 patients with a mean age of 33 years, containing 36 males, who presented with nasal obstruction for consideration of nasal surgery. All patients underwent a structured clinical assessment, skin-prick allergy testing, and oral-nasal flow-volume loop examination. 51 patients completed follow-up and mean follow-up was 11 months.

MAIN OUTCOME MEASURES:

NOSE, SNOT-22 and NASION scales.

RESULTS:

6 patients had conservative treatment, 28 had septal/turbinate surgery and 17 underwent nasal valve surgery. Mean NOSE score fell from 68±18 to 39±31 following treatment. Mean SNOT-22 score fell from 47±20 to 29±26 following treatment. The difference between pre-treatment and post-treatment NOSE and SNOT-22 scores were statistically significant. Success rate of septal/turbinate surgery in patients without nasal allergy was 88% and this fell to 42% in patients undergoing septal/turbinate surgery who also had nasal allergy. Presence of nasal allergy was the only independent predictor of treatment failure. Patients with nasal valve surgery reported significantly greater symptomatic improvement following surgery. The newly formed NASION scale demonstrated internal consistency with a Cronbach α of 0.9 and excellent change-responsiveness and convergent validity with correlation coefficients of 0.64 and 0.77 against treatment-related changes in SNOT-22 and NOSE scales respectively.

CONCLUSIONS:

Successful surgical outcomes can be achieved with the use of a structured history, clinical evaluation and physiological testing. Flow-volume loops can help elucidate the cause of nasal obstruction. The newly formed NASION scale is a validated retrospective single time-point patient outcome measure

ClinOtolaryngol. 2015 Aug 3.

3. An Algorithm for the Initial Management of Nasal Trauma.

Hoffmann JF1.

Abstract

Nasal fractures are the most common of all facial skeletal injuries. Untreated, these fractures frequently lead to functional and aesthetic problems. Careful history and physical assessment are critical to determine the extent of injury and to determine proper management. Critical aspects of assessment are discussed, as is the role of imaging in management. The unique aspects of pediatric nasal fractures and their management are reviewed. Fractures are classified based on the degree of injury and the involvement of the septum. A simple treatment algorithm is provided to help guide the selection of optimal treatment techniques. A review of instrumentation and treatment techniques is provided. The goal of treatment is to restore the nose to its preinjury shape and function and to minimize the need for secondary septorhinoplasty.

Facial Plast Surg. 2015 Jun; 31(3):183-93.

4. Comparison of microporous polysaccharide hemospheres and Ankaferd Blood Stopper in a rabbit epistaxis model.

Yurttas V1, Sereflican M, Terzi EH, Ozyalvaçlı G, Kazaz H.

Abstract

The aim of this study was to evaluate the histopathological impact, effectiveness, and safety of two hemostatic agents, Ankaferd Blood Stopper (ABS) and microporous polysaccharide hemospheres (MPH), in an experimental rabbit epistaxis model. Rabbits were randomly assigned, using a computerized random number generator, to the following three groups of six animals: group 1 (control, irrigated with saline); group 2 (ABS-treated); and group 3 (MPH-treated). In all groups, a standardized rabbit epistaxis model was used. Hemostasis time and extent of nasal bleeding were measured to compare the hemostatic effect of ABS and MPH among groups. Septums were removed for histopathological analysis, 7 days after the procedure. ABS reduced hemostasis time to 104.2 s and amount of bleeding to 20.5 mg. MPH reduced hemostasis time to 71.7 s and amount of bleeding to 11.5 mg. Mean bleeding time in wounds administered ABS and MPH was significantly shorter compared with wounds administered isotonic saline solution ($p = 0.004$). ABS and MPH application decreased bleeding significantly compared with the control group ($p = 0.004$). Bleeding time and amount in the MPH group was significantly reduced compared with the ABS group ($p = 0.013$ and $p = 0.004$, respectively). There was no significant difference in the histopathological evaluation results between the ABS, MPH, and control groups. Our data indicate that both ABS and MPH represent safe, effective, and fast-acting hemostatic agents in the management of epistaxis. MPH was more effective than ABS in terms of hemostasis time and amount of bleeding.

Eur Arch Otorhinolaryngol. 2015 Jun 23

5. Effects of Air Pollution and the Introduction of the London Low Emission Zone on the Prevalence of Respiratory and Allergic Symptoms in Schoolchildren in East London: A Sequential Cross-Sectional Study.

Wood HE1, Marlin N2, Mudway IS1, Bremner SA2, Cross L2, Dundas I3, Grieve A1, Grigg J3, Jamaludin JB4, Kelly FJ1, Lee T5, Sheikh A6, Walton R2, Griffiths CJ2.

Abstract

The adverse effects of traffic-related air pollution on children's respiratory health have been widely reported, but few studies have evaluated the impact of traffic-control policies designed to reduce urban air pollution. We assessed associations between traffic-related air pollutants and respiratory/allergic symptoms amongst 8-9 year-old schoolchildren living within the London Low Emission Zone (LEZ). Information on respiratory/allergic symptoms was obtained using a parent-completed questionnaire and linked to modelled annual air pollutant concentrations based on the residential address of each child, using a multivariable mixed effects logistic regression analysis. Exposure to traffic-related air pollutants was associated with current rhinitis: NOx (OR 1.01, 95% CI 1.00-1.02), NO2 (1.03, 1.00-1.06), PM10 (1.16, 1.04-1.28) and PM2.5 (1.38, 1.08-1.78), all per μg/m3 of pollutant, but not with other respiratory/allergic symptoms. The LEZ did not reduce ambient air pollution levels, or affect the prevalence of respiratory/allergic symptoms over the period studied. These data confirm the previous association between traffic-related air pollutant exposures and symptoms of current rhinitis. Importantly, the London

LEZ has not significantly improved air quality within the city, or the respiratory health of the resident population in its first three years of operation. This highlights the need for more robust measures to reduce traffic emissions.

PLoS One. 2015 Aug 21; 10(8):e0109121

6. Efficacy of preoperative itraconazole in allergic fungal rhinosinusitis.

Patro SK1, Verma RK, Panda NK, Chakrabarti A, Singh P.

Abstract

INTRODUCTION:

Criterion standard treatment of allergic fungal sinusitis (AFS) is primary surgery followed by adjuvant therapy. Even after good surgery, recurrence rates vary from 10 to 79%. Antifungals, e.g., itraconazole, and steroids have shown varying success rates in delaying recurrences given after surgery. Itraconazole decreases the need for steroids given as a primary treatment in allergic bronchopulmonary aspergillosis. This study investigated the efficacy of itraconazole given preoperatively for allergic fungal rhinosinusitis.

METHODOLOGY:

A prospective study was carried out from July 2011 to November 2013 with 27 patients with histologically proven AFS, who were given itraconazole for 1 month in the preoperative period and operated after completion of the course of itraconazole. They were compared with 25 matched controls of patients with AFS who were operated on directly without preoperative itraconazole. Both groups were given oral steroids in tapering doses for 6 weeks during the postoperative period and followed up at regular intervals. Evaluations were done by using symptomatic (Sino-Nasal Outcome Test [SNOT-20]), radiologic (Lund Mackay scores), and endoscopic (Kupferberg nasal endoscopic grades) parameters.

RESULTS:

Symptomatology scores (SNOT-20) decreased significantly ($p = 0.000$) with itraconazole. There was a decrease ($p = 0.007$) in the Lund Mackay scores that reached up to 0. There was complete resolution of disease in 15% of the patients. Reductions in hyperdensities were noted on computed tomography in all the patients after preoperative itraconazole. Polyp sizes decreased and nasal endoscopic grades improved after itraconazole. Postoperative fungal cultures were positive in 60% of the patients in the preoperative itraconazole group compared with 76% of the patients in the control group, which indicated a decreased fungal burden.

CONCLUSION:

We found improvements in clinical, radiologic, and endoscopic parameters in AFS after preoperative itraconazole administration, which decreased the disease load significantly and also reduced the extent of surgery in the short-term follow-up. It may prove to be a good preoperative adjunct that needs further research.

Am J Rhinol Allergy. 2015 Jul; 29(4):299-304

7. Differential diagnosis and treatment of isolated pathologies of the sphenoid sinus: retrospective study of 46 cases.

Marcolini TR1, Safraider MC1, Socher JA2, Lucena GO3.

Abstract

We identified 12 cases of isolated sphenoiditis (26.1%), 3 cases of A total of 46 cases of isolated sphenoid disease treated between January 2008 and December 2013 were evaluated by objective ear, nose, and throat examination and video endoscopy, computed tomography of the paranasal sinuses, and, in some cases, magnetic resonance imaging. In each case, we decided between drug and/or endoscopic treatment. Results A retrospective study of the main causes of isolated sphenoid sinus diseases with discussion of the most appropriate methods of diagnosis and treatment. Methods Isolated disease of the sphenoid is rare and has often been overlooked due to its remote location and difficult access. Objective Introduction fungal A prevalence of inflammatory and infectious diseases was found, and endoscopic surgery for the sphenoid sinus approach is effective in treating various diseases of the isolated sphenoid, whether complicated or not. sphenoiditis (6.5%), 3 cases of sphenochoanal polyps (6.5%), 22 cases of mucocele (47.8%), 2 cases of cerebrospinal fluid leak (4.3%), and 1 case each of meningoencephalocele (2.1%), inverted papilloma (2.1%), fibrous dysplasia (2.1%), and squamous cell carcinoma (2.1%). Conclusion

A prevalence of inflammatory and infectious diseases was found, and endoscopic surgery for the sphenoid sinus approach is effective in treating various diseases of the isolated sphenoid, whether complicated or not. Conclusion A prevalence of inflammatory and infectious diseases was found, and endoscopic surgery for the sphenoid sinus approach is effective in treating various diseases of the isolated sphenoid, whether complicated or not. Conclusion A prevalence of inflammatory and infectious diseases was found, and endoscopic surgery for the sphenoid sinus approach is effective in treating various diseases of the isolated sphenoid, whether complicated or not.

Int Arch Otorhinolaryngol. 2015 Apr; 19(2):124-9

8. [Prediction of the original location of sinonasal inverted papilloma by preoperative imaging].

Fang G, Wang C, Zhang L.

Abstract

Sinonasal inverted papilloma (SNIP) is one of the most common benign sinonasal tumors demonstrating a high recurrence rate after surgery, and sometimes presents malignant tendency or coexists squamous cell carcinoma. Therefore, it is essential to achieve complete surgical resection, especially the original location of SNIP. In this paper, we evaluated the predictability of preoperative CT and magnetic resonance imaging (MRI) for localization of SNIP origin.

Lin Chung Er Bi Yan HouTou Jing WaiKeZaZhi. 2014 Dec; 28(23):1902-6.

9. Long-term changes in quality of life after endoscopic resection of sinonasal and skull-base tumors.

Derousseau T1, Manjunath L1, Harrow B1, Zhang S2, Batra PS3.

Abstract

BACKGROUND:

Minimally invasive endoscopic resection (MIER) has emerged as the new standard for surgical treatment of sinonasal and skull-base tumors. The objective of the present study was to evaluate quality of life (QOL) 2 years after MIER.

METHODS:

Prospective 20-item Sino-Nasal Outcome Test (SNOT-20) data was accrued on 104 patients over 4 years. The study cohort included 72 patients with sinonasal malignancy, while 32 patients with inverted papilloma (IP) served as controls.

RESULTS:

The overall and rhinologic subdomain SNOT-20 scores for cancer patients did not statistically improve at 2 years ($p = 0.12$). They had statistically significant improvement in the psychological subdomain scores at 1 year ($p = 0.03$) and 2 years ($p = 0.03$). Similarly, the sleep subdomain scores improved at 1 year ($p = 0.04$) and 2 years ($p = 0.03$). In contrast, IP patients had statistically significant improvement in overall SNOT-20 ($p = 0.01$), rhinologic ($p = 0.01$), and sleep ($p = 0.05$) subdomain scores at 6 months, which remained stable at 2 years. Analysis of various factors demonstrated that history of prior smoking adversely affected QOL scores in cancer patients, with higher total SNOT-20 scores than nonsmokers ($p = 0.01$). Smokers also had higher psychological ($p = 0.04$), sleep ($p = 0.01$), and ear/facial ($p = 0.001$) domain scores than nonsmokers at 2 years.

CONCLUSION:

The long-term effects of MIER for sinus cancer showed improved psychological and sleep scores at both 1 year and 2 years. Unfortunately, rhinologic QOL did not statistically improve at any of the measured time points. History of smoking was noted to be the most important predictor of QOL 2 years after MIER for sinonasal malignancy

Int Forum Allergy Rhinol. 2015 Aug 6

10. Juvenile nasopharyngeal angiofibroma staging: An overview.

Alshaikh NA1, Eleftheriadou A
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Abstract

Staging of tumors is very important in treatment and surgical decision making, as well as in predicting disease recurrence and prognosis. This review focuses on the different available classifications of juvenile nasopharyngeal angiofibroma (JNA) and their impact on the evaluation, management, and prognosis of JNA. The literature was reviewed, and publications on JNA staging were examined. Our MEDLINE search of the entire English-language literature found no review article on the current available staging systems for JNA. In this article, we review the common JNA classification systems that have been published, and we discuss some of their advantages and disadvantages. The most commonly used staging systems for JNA are the Radkowski and the Andrews-Fisch staging systems. However, some newer staging systems that are based on advances in technology and surgical approaches-the Onerci, INCan, and UPMC systems-have shown promising utility, and they will probably gain popularity in the future.

Ear Nose Throat J. 2015 Jun; 94(6):E12-22.