Pan Arab Rhinology Society
PARS Reader's Digest

Reader Digest

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

Introduction

This newsletter is intended to provide information that is useful to the student and specialist in the field of rhinology and allergic disorders.

The selected recent material represents important fundamental knowledge, current trends or recent developments in this field.

We hope that this newsletter will help the reader have a greater understanding of rhinology and allergic disorders.

1. The inferior turbinate: An autonomic organ.

Smith DH1, Brook CD2, Virani S3, Platt MP3.

Abstract

The inferior turbinate has well-recognized respiratory and immune functions to provide the airway with appropriate warmth, humidification, and filtration of the inspired air while sampling the environment for pathogens. Normal functioning of the inferior turbinate relies on an intact autonomic system to maintain homeostasis within the nasal cavity. The autonomic nervous system innervates the submucosal glands and the vasculature within the inferior turbinate, resulting in control of major turbinate functions: nasal secretions, nasal patency, warmth, and humidification. This review will summarize the autonomic innervations of the turbinates, both the normal and abnormal autonomic processes that contribute to the turbinate functions, and the clinical considerations regarding optimal functioning of the turbinate autonomic system

Am J Otolaryngol. 2018 Nov - Dec;39(6):771-775.

2. Techniques in Septoplasty: Traditional Versus Endoscopic Approaches.

Shah J1, Roxbury CR1, Sindwani R2.

Abstract

This article provides a review of modern techniques in the surgical management of the deviated septum with emphasis on the comparison of traditional versus endoscopic septoplasty approaches. Relevant anatomy and physiology of the nasal septum are discussed. A brief history

of the evolution of the surgical approaches for the correction of a deviated septum is provided. Traditional and endoscopic septoplasty techniques are reviewed; the indications, advantages, and limitations of each approach are highlighted. Potential complications of septoplasty, with a focus on prevention and management, are also discussed

Otolaryngol Clin North Am. 2018 Oct;51(5):909-917.

3. The measurement of nose dimensions through the three-dimensional reformation images after nasal bone fracture.

Jang SB1, Han DG1.

Abstract

BACKGROUND:

After closed reduction, patients are sometimes concerned that their external nasal shapes have changed. The aim of this study was to investigate and explain changes in nasal shape after surgery through objective photogrammetric anthropometry measurements taken through three-dimensional (3D) reformed computed tomography (CT) images.

METHODS:

Our study included 100 Korean patients who underwent closed reduction of isolated nasal bone fracture from January 2016 to June 2017. Using the ruler tool in Adobe Photoshop CS3, we measured preoperative and postoperative nasal base heights, long nostril axis lengths, both nasal alar angles, and amount of nasal deviation through the 3D reformation of soft tissue via CT scans. We then compared the dimension of nose.

RESULTS:

The amount of postoperative correction for nasal base height was 1.192 mm. The differences in nostril length between each side were found to be 0.333 mm preoperatively and 0.323 mm postoperatively. The differences in the nasal alar angle between each side was 1.382° preoperatively and 1.043° postoperatively. The amount of nasal deviation was found to be 5.248 mm preoperatively and 1.024 mm in postoperatively.

CONCLUSION:

After the reduction of nasal bone fractures, changes in nasal dimensions were noticeable in terms of nasal deviation but less significant in nasal tips, except for changes in nasal alar angles, which were notable

Arch Craniofac Surg. 2019 Feb;20(1):31-36

4. Endoscopic Sphenopalatine Artery Ligation: General Applicability in a Teaching Unit.

Hey SY1, Koo Ng NKF1, McGarry GW1.

Abstract

BACKGROUND:

Endoscopic sphenopalatine artery ligation (ESPAL) is the intervention of choice for refractory epistaxis in specialist ear, nose and throat (ENT)units and should be within the repertoire of competencies for all ENT trainees. Following its recent incorporation within the United Kingdom competency-based training syllabus as an explicit outcome standard, the ESPAL is not uncommonly being delivered by trainees under appropriate supervision. We assessed the efficacy and outcome of ESPAL in epistaxis management within our teaching hospitals.

METHODS:

Retrospective, structured review of all ESPAL procedures performed for epistaxis between December 2005 and December 2013. The techniques of ligation, operator grade, and outcome were studied.

RESULTS:

Sixty-five patients (41 male:24 female; average age of 58.2 years) were identified in whom 67 artery ligations were performed (63 unilateral; 2 bilateral). Overall, success rate of ESPAL was 92.3% (60/65), with 5 rebleed cases recorded within 30 days of the primary procedure. Sixteen (24.6%) underwent "clipping," 26 (40.0%) had diathermy ligation, 18 (27.7%) had both clipping and diathermy, and in 5 (7.7%) patients, the ligation technique was not recorded. In 31 (47.7%) of 65 cases, a consultant was the principal surgeon. The remaining 34 (52.3%) of 65 cases were performed by trainees with (24, 70.6%) or without (10, 29.4%) supervision. There was no correlation between rebleed and operators' grade, level of supervision, or ligation technique.

CONCLUSION:

With appropriate training, ESPAL can achieve hemostasis in teams of varying grades of operators without significant reduction in outcome. To further enhance the technical learning curve, the utility of simulation-based training could offer continuous and longitudinal development of skills

Ear Nose Throat J. 2019 Feb;98(2):85-88.

5. Endoscopic Treatment of Isolated Sphenoid Sinus Disease in Children.

Wang PP1, Ge WT1, Ni X1, Tang LX1, Zhang J1, Yang XJ1, Sun JH2.

Abstract

In this article, we explore the disease spectrum and clinical characteristics of and the diagnosis and endoscopic approach to treating isolated sphenoid sinus disease (ISSD) in children. To these ends, we review a case series of 19 patients (mean age: 8.1 ± 4.9 years, range: 1.1-15 years, median age: 6.7 years, 13 males, 6 females) who underwent surgical treatment at our hospital for ISSD during the 4 years between 2012 and 2016. The symptoms of pediatric sphenoid sinus disease tend to be variable and nonspecific and include atypical headache, nasal congestion, epistaxis, postnasal drip, snoring, and impaired vision. Headache is the presenting symptom in 42% of patients, but headaches occurred in no specific or typical location. Ten patients underwent preoperative endoscopic examination, and abnormalities in the sphenoethmoidal recess were found in 6 (60%) of these 10 patients. All 19 patients underwent ultra-low-dose paranasal sinus computed tomography (CT) imaging, and 9 patients with suspected tumors or sphenoid mucoceles were further examined by magnetic resonance imaging (MRI). The endoscopic transostial approach was performed in all 19 patients: 16 patients received excision of inflammatory sphenoid sinus disorders and benign tumors, including sphenoid sinusitis, sphenoid sinus mucocele, sphenoid sinus polyp, and ossifying fibroma; 3 patients with suspected tumors received biopsies to detect rhabdomyosarcoma, Langerhans cell histiocytosis, and juvenile xanthogranuloma. No intraoperative or immediate postoperative complications were observed. Children with opacified sphenoid sinus identified by radiographic imaging presented a variety of pathologies. The most common lesions were associated with inflammatory disease. Because the symptoms of pediatric sphenoid sinus disease tend to be variable and nonspecific, CT remains the standard for evaluating sphenoid sinus disease, and ultra-low-dose paranasal sinus CT imaging is recommended and can provide images of equal or better quality compared with those obtained by standard dose CT. In addition, MRI is an essential adjunct in the diagnosis and selection of treatment for suspected tumors of the sphenoid sinus. The endoscopic transostial approach was especially suitable for the management of pediatric benign isolated sphenoid sinus lesions.

Ear Nose Throat J. 2019 Apr 23:145561319841227.

6. Allergic rhinitis and asthma co-morbidity.

Sukhan VS1.

Abstract

OBJECTIVE:

Introduction: The combination of asthma and allergic rhinitis can affect the mutual encumbrance to which other pathogenetic mechanisms join, which worsen the course of both diseases. The aim of work is to analyze the features of the genotype and phenotype in patients with a co-morbidity of asthma and allergic rhinitis.

PATIENTS AND METHODS:

Materials and methods: In order to detect the features of asthma and allergic rhinitis, 115 patients were examined. Patients were divided into two groups: the first included 58 patients with allergic asthma and allergic rhinitis co-morbidity, the second - 57 patients with non-allergic asthma morbidity.

RESULTS:

Results: For the group of patients with allergic asthma with concomitant allergic rhinitis, the first manifestation of allergy in childhood is characteristic (allergic rhinitis, hay fever, atopic dermatitis). For this group of patients characterized by a heavy family allergic history. Symptoms of allergic rhinitis aggravate the course of asthma. Characteristic correlation of symptoms of allergic rhinitis with distal obstruction and pronounced lability of bronchi. In these patients, the total increase in IgE and blood eosinophilia, in 1,5 times increased blood histamine and the level of exhaled NO2 have been increased. Also, asthma control with concomitant allergic rhinitis was significantly worse than in an isolated asthma group ($p < 0.05$).

CONCLUSION:

Conclusion: The obtained data allow to distinguishing the phenotype of patients with asthma and allergic rhinitis co-morbidity.

Wiad Lek. 2019;72(4):622-626.

7. Definition and management of odontogenic maxillary sinusitis.

Kim SM1,2.

Abstract

Background:

Maxillary sinusitis of odontogenic origin, also known as maxillary sinusitis of dental origin or odontogenic maxillary sinusitis (OMS), is a common disease in dental, otorhinolaryngologic, allergic, general, and maxillofacial contexts. Despite being a well-known disease entity, many cases are referred to otorhinolaryngologists by both doctors and dentists. Thus, early detection and initial diagnosis often fail to detect its odontogenic origin.

Main body:

We searched recent databases including MEDLINE (PubMed), Embase, and the Cochrane Library using keyword combinations of "odontogenic," "odontogenic infection," "dental origin," "tooth origin," "sinusitis," "maxillary sinus," "maxillary sinusitis," "odontogenic maxillary sinusitis," "Caldwell Luc Procedure (CLP)," "rhinosinusitis," "functional endoscopic sinus surgery (FESS)," "modified endoscopy-assisted maxillary sinus surgery (MESS)," and "paranasal sinus." Aside from the PRISMA (Preferred Reporting Items for Systematic reviews and Meta-Analyses) trial, there have been very few randomized controlled trials examining OMS. We summarized the resulting data based on our diverse clinical experiences.

Conclusion:

To promote the most efficient and accurate management of OMS, this article summarizes the clinical features of rhinosinusitis compared with OMS and the pathogenesis, microbiology, diagnosis, and results of prompt consolidated management of OMS that prevent anticipated complications. The true origin of odontogenic infections is also reviewed

Maxillofac Plast Reconstr Surg. 2019 Mar 29;41(1):13.

8. Morbidity and Volumetric Progression in Juvenile Nasopharyngeal Angiofibroma in a Long-Term Follow-Up.

Epprecht L1, Mosimann M1, Vital D1, Holzmann D1.

Abstract

Objective We compare the open and transnasal approaches for the excision of juvenile nasopharyngeal angiofibromas regarding the rate of morbidity, and residual tumor and its symptomatic recurrence over time. In addition, we present volumetric measurements of juvenile nasopharyngeal angiofibromas over time. **Methods** All surgically treated patients of our

institution were reviewed back to 1969 for type of surgery, residual tumor by magnetic resonance imaging (MRI)-based volumetry, recurrence, and morbidity. We performed a prospective clinical and radiological follow-up on reachable patients. **Results** In total, 40 patients were retrievable from our records. We were able to follow up on 13 patients after a mean of 15.7 years since surgery (range: 1-47 years). Patients operated by the open approach had a higher rate of postoperative complications and thus a higher morbidity than endoscopic patients (4/4 vs 3/9; $p = 0.007$), although tumor sizes were equal among groups ($p = 0.12$). Persisting tumor was noted in 3/4 and 4/9 ($p = 0.56$) patients, respectively. The corresponding mean volumes of residual tumors were 16.2 ± 14.4 cm 3 and 10.8 ± 6.6 cm 3 ($p = 0.27$). No progression could be noted in endoscopically treated patients ($p = 0.24$, mean time between scans 2 years). **Conclusions** Our analysis shows that the endoscopic approach results in less morbidity. The open approach does not guarantee freedom from persisting tumor tissue. Age seems to be a most important risk factor for the conversion of an asymptomatic persistence into a symptomatic recurrence.

J Neurol Surg B Skull Base. 2018 Dec;79(6):533-537.

9. Malignant Versus Benign Tumors of the Sinonasal Cavity: A Case-Control Study on Occupational Etiology.

Emanuelli E1, Comiati V2, Cazzador D3, Schiavo G4, Alexandre E5, Fedeli U6, Frasson G7, Zanon A8, Martini A9, Scapellato ML10, Mastrangelo G11.

Abstract

Case-control studies on malignant sinonasal tumors and occupational risk factors are generally weakened by non-occupational confounders and the selection of suitable controls. This study aimed to confirm the association between sinonasal malignant tumors and patients' occupations with consideration for sinonasal inverted papillomas (SNIPs) as a control group. Thirty-two patients affected by adenocarcinoma (ADC) and 21 non-adenocarcinoma epithelial tumors (NAETs) were compared to 65 patients diagnosed with SNIPs. All patients were recruited in the same clinical setting between 2004 and 2016. A questionnaire was used to collect information on non-occupational factors (age, sex, smoking, allergies, and chronic sinusitis) and occupations (wood- and leather-related occupations, textile industry, metal working). Odds ratios (OR) with 95% confidence intervals (CI) associated with selected occupations were obtained by a multinomial and exact logistic regression. Between the three groups of patients, SNIP patients were significantly younger than ADC patients ($p = 0.026$). The risk of NAET increased in woodworkers (OR = 9.42; CI = 1.94⁻45.6) and metal workers (OR = 5.65; CI = 1.12⁻28.6). The risk of ADC increased in wood (OR = 86.3; CI = 15.2⁻488) and leather workers (OR = 119.4; CI = 11.3⁻1258). On the exact logistic regression, the OR associated to the textile industry was 9.32 (95%CI = 1.10⁻Inf) for ADC, and 7.21 (95%CI = 0.55⁻Inf) for NAET. Comparing sinonasal malignant tumors with controls recruited from the same clinical setting allowed demonstrating an

increased risk associated with multiple occupations. Well-matched samples of cases and controls reduced the confounding bias and increased the strength of the association

Int J Environ Res Public Health. 2018 Dec 17;15(12).

10. Clinical practice guidelines for the management of olfactory dysfunction - Secondary publication.

Miwa T1, Ikeda K2, Ishibashi T3, Kobayashi M4, Kondo K5, Matsuwaki Y6, Ogawa T7, Shiga H8, Suzuki M9, Tsuzuki K10, Furuta A11, Motoo Y12, Fujieda S13, Kurono Y14.

Abstract

OBJECTIVE:

To provide an evidence-based recommendation for the management of olfactory dysfunction in accordance with the consensus reached by the Subcommittee of the Japanese Clinical Practice Guideline for olfactory dysfunction in the Japanese Rhinologic Society.

METHODS:

Seven clinical questions (CQs) regarding the management of olfactory dysfunction were formulated by the subcommittee of the Japanese Clinical Practice Guideline for olfactory dysfunction. We searched the literature published between April 1990 and September 2014 using PubMed, the Cochrane Library, and Ichushi Web databases. The main search terms were "smell disorder," "olfactory dysfunction," "olfactory loss," "olfactory disturbance," "olfactory impairments," "olfaction disorder," "smell disorder," "anosmia," "cacosmia," and "dysosmia." Based on the results of the literature review and the expert opinion of the Subcommittee, 4 levels of recommendation, from A-strongly recommended to D-not recommended, were adopted for the management of olfactory dysfunction.

RESULTS:

Both oral and locally administered corticosteroids have been strongly recommended for patients with olfactory dysfunction due to chronic rhinosinusitis. Nasal steroid spray and antihistamine drugs have been moderately recommended for patients with allergic rhinitis. Although no drugs have been deemed to be truly effective for post-viral olfactory dysfunction by randomized-controlled trials (RCTs) or placebo-controlled trials, olfactory training using odorants has been reported to be effective for improving olfactory function. There is considerable evidence that olfactory testing is useful for differential diagnosis, prediction of disease progression, and early detection of cognitive decline in neurodegenerative diseases.

CONCLUSION:

The Clinical Practice Guideline has developed recommendations for the management of various aspects of olfactory dysfunction.

Auris Nasus Larynx. 2019 May 7.