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 allergic disorders.

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. Endonasal anatomy of the olfactory neural network: Surgical implications.

Gomez Galarce M1,2,3, Yanez-Siller JC1, Carrau RL1,4, Montaser A4, Lima LR4, Servian D4, Otto BA1,4, Prevedello DM1,4, Naudy CA4,2.

Abstract

OBJECTIVES/HYPOTHESIS:

Define the anatomic distribution of the olfactory filaments within specific mucosal regions of the nasal cavity.

STUDY DESIGN:

Cadaveric study.

METHODS:

Seventeen cadaveric specimens (34 sides) were dissected to study the anatomical distribution and density of olfactory fila within different regions of the nasal cavity. Olfactory fila were dissected retrogradely to their point of entry into the anterior cranial fossa through the cribriform plate. Anatomic relationships among various components of the olfactory system and their corresponding arterial supply were determined subjectively.

RESULTS:

The highest density of olfactory fila was found at the mucosa of the ethmoid roof and superior turbinates. Olfactory fila were found at regions not previously considered to be part of the olfactory system: lateral wall of the nose, ethmoidal bullae, and between the os sphenoidale and arc of the posterior choana. Furthermore, at the septum, 20% of the olfactory fila crossed contralaterally before exiting the nose. The anterior ethmoidal arteries were the primary blood supply to the olfactory epithelium.

CONCLUSIONS:

This study suggests that olfactory filaments extend beyond previously established boundaries. These findings may have clinical implications regarding oncologic resections and could serve as the foundation for the development of techniques that better preserve olfactory function.

Laryngoscope. 2018 Aug 10.

3. A novel surgical technique: Crushed septal cartilage graft application in endonasal septoplasty.

Mutlu V1.

Abstract

OBJECTIVE:

Nowadays, different septoplasty procedures are applied for therapy of nasal septum deviation. However, various complications of the septoplasty procedures have been described. Several techniques have been developed to decrease the incidence of these complications by surgeons. We aimed to present the effectiveness of the crushed septal cartilage graft, which is a novel septoplasty technique.

METHODS:

Patients: Patients The study was performed based on the parameters of 500 patients who underwent surgery with crushed cartilage graft technique in our clinic between the dates 2013 and 2016.

TECHNIQUE:

This novel operation technique was performed under general anestesia. The NOSE (Nasal obstruction symptom evaluation) scale was applied to all patients in both the preoperative period and the 2nd month of the postoperative period, and then the both values were statistically compared. Additionally, all the patients were followed up for complications that may occur after the operation for a year.

RESULTS:

The study included 140 (28%) female and 360 (72%) male patients, which totally makes 500 patients. The average age of the participants was 35±12.5. When compared to the preoperative NOSE scale values ($P<0.001$), the postoperative NOSE scale values were found to be significant. We watched intranasal infection and incrustation in 7(1.4%) patients in early postoperative period and the epistaxis in 3(0.6%) patients in late postoperative period. We did not see any postoperative complications apart from these two minor and insignificant complications during the follow-up along a year.

CONCLUSION:

The crushed cartilage technique is a feasible, safe and effective alternative surgery technique to traditional septoplasty. What is more, complications of septoplasty can be prevented with the help of this novel surgical technique.

Auris Nasus Larynx. 2018 Aug 17

4. Immunotherapy in Allergic Rhinitis: It's Effect on the Immune System and Clinical Symptoms.

Kouzegaran S1, Zamani MA2, Faridhosseini R1, Rafatpanah H3, Rezaee A3, Yousefzadeh H4, Movahed R5, Azad FJ1, Tehrani H1.

Abstract

BACKGROUND:

Allergic rhinitis is one of the most common allergic diseases and characterised by sneezing, rhinorrhea, nasal congestion and nasopharyngeal itching. Subcutaneous immunotherapy (SCIT) for specific allergens is an effective treatment and induces the inhibitory effect of T regulatory lymphocytes and decreases clinical symptoms in allergic rhinitis.

AIM:

In this study effect of subcutaneous immunotherapy with specific allergens on clinical symptoms and T regulatory and T Helper cells cytokines, in patients with allergic rhinitis are evaluated.

METHODS:

In this study, 30 patients with moderate to severe allergic rhinitis according to clinical criteria and positive skin prick test for aeroallergens were selected and treated by SCIT. Clinical symptoms and T cells cytokines IL4, IL17, IFN gamma, TGF beta, GITR, FOXP3 and IL-10 (by RT-PCR) were evaluated before and one year after initiation of treatment.

RESULTS:

Thirty (30) patients with allergic rhinitis at age range 15-45 years old were treated by SCIT, and 23 (14 female, 9 male) patients continued the study, and 7 patients did not continue treatment. After immunotherapy, clinical symptoms decreased significantly. The specific cytokines TGF beta and IL10 levels increased and changes were statistically significant. (Respectively $P = 0.013$ and $P = 0.05$) The IL17 level was also increased, but not statistically significant. ($P = 0.8$) IFN gamma, IL4, GITR, FOXP3, all decreased, but the changes were not statistically significant ($P > 0.05$).

CONCLUSION:

Subcutaneous Immunotherapy for specific allergens decreases clinical symptoms in patients with allergic rhinitis and induces tolerance in T lymphocytes, especially by increasing T regulatory cells cytokines, TGF beta and IL10

Open Access Maced J Med Sci. 2018 Jul 16;6(7):1248-1252.

5. Prevention of chronic rhinosinusitis.

Hopkins C1, Surda P1, Bast F1, Hettige R1, Walker A1, Hellings PW2.

Abstract

Prevention of chronicity of disease and minimising its impact with individualized treatment is a fundamental tenet of precision medicine. A review of the literature has been undertaken to explore how this may apply to chronic rhinosinusitis (CRS). Prevention may be thought of across 3 main domains. Primary prevention of CRS focuses on the avoidance of exposure to environmental factors associated with increased incidence of disease. This includes avoidance of tobacco smoke and occupational toxins. Although allergic rhinitis, respiratory infections and gastro-oesophageal reflux have been shown to be risk factors, there is no evidence as yet that treatment of these conditions is associated with reduced incidence of CRS. Secondary prevention of CRS is concerned with detecting a disease in its earliest stages, intervening to achieve disease and symptom control and preventing future exacerbations. Evidence based guidelines facilitate early diagnosis and appropriate use of medical and surgical interventions. In the future the use of endotypes to direct optimal is like to allow more clinically and cost-effective use of current and emerging treatments, such as monoclonal antibodies. Tertiary prevention aims to minimise the impact of an ongoing illness or injury that has lasting effects. Anxiety and depression have been shown to be associated with symptom amplification and may require treatment. The role of disease-related factors such as the role of the microbiome and osteo-neogenesis in the development of chronicity, and the development of severe combined upper airway disease needs further research.

Rhinology. 2018 Jul 27.

6. WITHDRAWN: Topical and systemic antifungal therapy for the symptomatic treatment of chronic rhinosinusitis.

Sacks PL1, Harvey RJ, Rimmer J, Gallagher RM, Sacks R.

Abstract

BACKGROUND:

Chronic rhinosinusitis (CRS) is an inflammatory disorder of the nose and sinuses. Since fungi were postulated as a potential cause of CRS in the late 1990s, there has been increasing controversy about the use of both topical and systemic antifungal agents in its management. Although interaction between the immune system and fungus has been demonstrated in CRS, this does not necessarily imply that fungi are the cause of CRS or that antifungals will be effective its management.

OBJECTIVES:

To assess the effectiveness of topical or systemic antifungal therapy in the treatment of CRS.

SEARCH METHODS:

We searched the Cochrane Ear, Nose and Throat Disorders Group Trials Register; the Cochrane Central Register of Controlled Trials (CENTRAL); PubMed; EMBASE; CINAHL; Web of Science; BIOSIS Previews; Cambridge Scientific Abstracts; ICTRP and additional sources for published and unpublished trials. The date of the most recent search was 8 March 2011.

SELECTION CRITERIA:

All randomised, placebo-controlled trials considering the use of topical or systemic antifungal therapy in the treatment of CRS and allergic fungal sinusitis (AFS). CRS was defined using either the European Position Paper on Rhinosinusitis and Nasal Polyps (EPOS) or American Academy of Otolaryngology - Head and Neck Surgery (AAO-HNS) criteria.

DATA COLLECTION AND ANALYSIS:

We reviewed the titles and abstracts of all studies obtained from the searches and selected trials that met the eligibility criteria. We extracted data using a pre-determined data extraction form. There was significant heterogeneity of outcome data reporting with reports containing both parametric and non-parametric representations of data for the same outcomes. Means and standard deviations for change data were unavailable for a number of trials. Due to the limited reported data, we contacted authors and used original data for data analysis.

MAIN RESULTS:

Six studies were included (380 participants). Five studies investigated topical antifungals and one study investigated systemic antifungals. The risk of bias in all

included studies was low, with all trials being double-blinded and randomised. Pooled meta-analysis showed no statistically significant benefit of topical or systemic antifungals over placebo for any outcome. Symptom scores in fact statistically favoured the placebo group. Adverse event reporting was statistically significantly higher in the antifungal group.

Cochrane Database Syst Rev. 2018 Sep 5;9:CD008263.

7. Bone involvement: Histopathological evidence for endoscopic management of sinonasal inverted papilloma.

Liang N1, Huang Z1, Liu H2, Xian J3, Huang Q1, Zhou B1.

Abstract

OBJECTIVE:

The aim of this study is to provide histopathological evidence for a better understanding of the excision of bone underlying tumor.

STUDY DESIGN:

Retrospective study.

METHODS:

Thirty patients with histopathological diagnosis of sinonasal inverted papilloma (SIP) were enrolled. All patients underwent preoperative radiography to define the tumor location. The primary tumor and underlying bone, removed during endoscopic surgery, were examined under microscope.

RESULTS:

Twenty-five of 30 specimens exhibited bony hyperostosis on computed tomography (CT) images, and 12 of 30 specimens showed evidence of bony lamellar erosion. Both coexisted in 11 cases. Half of the relapse cases (8 of 16) presented bone discontinuity on CT, which indicates a higher propensity for bone involvement when compared with primary SIP. On histopathology, 26 cases presented hyperostosis and 11 cases showed bone invasion. In total, 90% of cases covered both. Sixteen cases showed a growing tendency of inflammatory cells infiltration.

CONCLUSION:

Histopathological evidence of bone involvement indicates the importance of removal of the underlying bone at the time of endoscopic tumor resection. We

hypothesized that bone involvement including bone invasion and osteogenesis may be induced by the tumor, and any microscopic lesion in the bony crevices probably indicates recurrence of SIP. Furthermore, infiltration of inflammatory cells may facilitate bone involvement and cause recurrence

Laryngoscope. 2017 Dec;127(12):2703-2708.

8. Clinical analysis of primary nasal sinus osteoma.

Dong J1, Lu M1, Zhou H1, Zhang W1, Li Y1, Dong W2.

Abstract

OBJECTIVE:

To summarize and analyze the clinical features, diagnosis, surgical approaches and treatment outcomes of patients with primary nasal sinus osteoma.

METHODS:

A retrospective review of 48 cases with primary nasal sinus osteoma treated from January 2007 to December 2013 was performed. All patients underwent preoperative CT scan and postoperative histopathologic examination. The surgical approaches included lateral rhinotomy in 14 cases, nasal endoscopic resection in 12 cases, coronal surgical incision craniotomy in 13 cases, combined craniofacial approach in 4 cases, and Caldwell-Luc approach in 5 cases.

RESULTS:

The postoperative pathological diagnosis consisted of 3 variants, including 20 for compact type and 15 for cancellous type, and 13 for mixed type. Six cases were lost to follow-up and 42 cases were followed up for 6-60 months, 5 cases recurred. The post-operative complications included sinus mucous cyst in 4 cases, cerebrospinal fluid leak in 3 cases.

CONCLUSIONS:

Nasal sinus osteoma are common. CT or MRI is helpful to evaluate the osteoma size, location and possible sources, and to make operation scheme. Surgery is the first choice for sinus osteoma. Lateral rhinotomy and nasal endoscopic resection can be applied to most sinus osteoma. The prognosis of sinus osteoma is good, with fewer recurrence.

Zhonghua Er Bi Yan Hou Tou Jing Wai Ke Za Zhi. 2015 Jan;50(1):8-13

9. Imaging features of benign mass lesions in the nasal cavity and paranasal sinuses according to the 2017 WHO classification.

Tatekawa H1, Shimono T2, Ohsawa M3, Doishita S2, Sakamoto S2, Miki Y2.

Abstract

The World Health Organization (WHO) 2017 classification of head and neck tumors has been just published and has reorganized tumors of the nasal cavity and paranasal sinuses. In this classification, three new entities (seromucinous hamartoma, NUT carcinoma, and biphenotypic sinonasal sarcoma) were included, while the total number of tumors has been reduced by excluding tumors if they did not occur exclusively or predominantly in this region. Among these entities, benign tumors were classified as sinonasal papillomas, respiratory epithelial lesions, salivary gland tumors, benign soft tissue tumors, or other tumors. In contrast, inflammatory diseases often show tumor-like appearances. The imaging features of these benign tumors and tumor-like inflammatory diseases often resemble malignant tumors, and some benign lesions should be given attention in the follow-up period and before surgery to avoid recurrence, malignant transformation, or massive bleeding. Understanding the CT and MR imaging features of various benign mass lesions is clinically important for appropriate therapy. The purpose of this article is to describe the clinical characteristics and imaging features of each of clinically important nasal and paranasal benign mass lesions, as classified according to the WHO 2017 classification of head and neck tumors, along with some inflammatory diseases

Jpn J Radiol. 2018 Jun;36(6):361-381

10. Postoperative Complications of Endoscopic Versus Microscopic Transsphenoidal Pituitary Surgery: A Meta-Analysis.

Fang J1, Xie S2, Li N2, Jiang Z2.

Abstract

Transsphenoidal microscopic pituitary surgery is an effective way of treating pituitary tumors. However, minimal invasive approach endoscopic transsphenoidal

pituitary surgery has become much more prevalent these days. Endoscopic surgery resects the maximum tumour with less complications. As endoscopic surgery is much safer and less invasive as compared to the microscopic transsphenoidal surgery, selection of technology for the treatment of pituitary adenoma is becoming increasingly equivocal. The main aim of this systematic review was to assess the safety of endoscopic and microscopic transsphenoidal pituitary surgery in terms of postoperative complications. Relevant studies between January 1992 and January 2017 were searched in the Cochrane Library electronic databases, EMBASE and MEDLINE, through a systematic literature search. A total of 1,463 patients reviewed (microscopic group=684, endoscopic group=779), the proportion of diabetes insipidus, septal perforation and other complications related to surgery (include lip anesthesia, nasal anesthesia, deviated septum, saddle nose, sinusitis, synechiae, anosmia) in those patients who had endoscopic surgery were significantly lower ($p<0.05$). No significant difference emerged between the two approaches in the incidence rates of cerebrospinal fluid leak, meningitis, epistaxis or hypopituitarism ($p>0.05$). These results support the safety of endoscopic transsphenoidal pituitary adenoma surgery

J Coll Physicians Surg Pak. 2018 Jul;28(7):554-559.