



Reader Digest

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

1. Diagnostic Imaging Features of Congenital Nose and Nasal Cavity Lesions.

[Ginat DT¹](#), [Robson CD](#).

Abstract

A wide variety of congenital nasal lesions can present to clinical attention due to airway obstruction, the presence of a mass, and/or cosmetic deformity, including pyriform aperture stenosis, choanal atresia, nasopharyngeal atresia, arrhinia, congenital germline fusion cysts, cephaloceles, neuroglial heterotopia, nasolacrimal duct mucocoeles, hamartomas, supernumerary nostril, and bifid nose. Computed tomography and magnetic resonance imaging, which are the main imaging modalities used to characterize these lesions, often serve complementary roles. Familiarity with embryology and anatomy is also essential for recognizing the diagnostic imaging findings related to congenital nasal lesions.

Clin Neuroradiol. 2014 Aug 6

2. The utility of routine polyp histopathology after endoscopic sinus surgery.

Yeh DH¹, Wong J, Hoffbauer S, Wehrli B, Sommer D, Rotenberg BW.

Abstract

BACKGROUND:

Routine histopathological assessment is standard practice for nasal polyp specimens obtained during endoscopic sinus surgery (ESS) for chronic rhinosinusitis (CRS). Retrospective studies suggest that routine histopathology of nasal polyps shows few unexpected diagnoses that alter patient management. Our objective was to study the use of routine pathological analysis, and its cost to the healthcare system, in a prospective manner.

METHODS:

A multicenter prospective assessment was performed from data collected between 2007 and 2013. Only cases of patients undergoing ESS for bilateral CRS were included. We excluded unilateral disease cases, and cases in which diagnoses other than polyps were suspected either preoperatively or intraoperatively. We then compared the preoperative diagnosis with the final histopathology and identified the rate of unexpected pathologies. A cost analysis was performed.



RESULTS:

Only 4 of 866 pathological specimens were identified as having a clinically significant unexpected diagnosis. All unexpected pathologies in this series were benign. These 4 cases account for 0.46% of all specimens reviewed. This translates to a number needed to screen of 217 cases of bilateral CRS to discover 1 unexpected pathology. The associated cost for making an unexpected diagnosis was \$19,192.73.

CONCLUSION:

Routine histopathology of nasal polyps in ESS for bilateral CRS with polyps yields few unexpected and management-altering diagnoses. It carries a significant cost to the healthcare system. In cases of bilateral CRS with no other concerning clinical features, clinicians should exercise judgment in submitting polyp specimens for pathology rather than routinely sending polyps for histopathologic analysis.

Int Forum Allergy Rhinol. 2014 Aug 20

3. Correction of the deviated septum: from ancient Egypt to the endoscopic era.

Aaronson NL1, Vining EM.

Abstract

BACKGROUND:

Obstructed nasal breathing can occur due to deviation of the nasal septum. When the external nose appears grossly normal and cosmesis is not the focus, septoplasty has been the procedure used to straighten the septum with the goal of improving nasal airflow. Septoplasty has evolved over time.

METHODS:

A historical literature review was conducted to look for primary source journal articles and medical conferences proceedings addressing the evolution of the septoplasty procedure.

RESULTS:

Early techniques involved forcible fractures and splinting. Submucous resection was the first major advancement in surgical technique. Once the complications resulting from this technique were observed, it was subsequently revised with attempts to better address the caudal septal deviation. Attention was then turned to better incorporating the role surrounding support structures, such as the upper lateral cartilages. The premaxilla-maxilla approach attempted to address the overall nasal structure to best improve nasal breathing. The advent of endoscopic technique has been the most recent shift in surgical technique with improved visualization allowing for targeted septoplasty and reoperation on complicated cases including pituitary and skull base surgery.



CONCLUSION:

This paper discusses the evolution of septoplasty techniques over time from the initial undertakings of the ancient Egyptians to the modern-day septoplasty. While the principles behind septoplasty have remained much the same, experience has allowed for refinement of surgical technique. No doubt new instrumentations and innovations will further help to tailor the practice of septoplasty to the anatomy and functional needs of each individual patient.

Int Forum Allergy Rhinol. 2014 Aug 18

4. Endoscopic management of posterior epistaxis: a review.

McClurg SW, Carrau R.

Abstract

The paradigm for the management of epistaxis, specifically posterior epistaxis, has undergone significant changes in the recent past. Recent prospective and retrospective data has shown that the endonasal surgical management of posteriorepistaxis is superior to posterior nasal packing and angiography/embolization with regards to various factors including pain, cost-effectiveness, risk and overall control of bleeding. Endonasal endoscopic surgical techniques for posterior epistaxis include direct cauterization and transnasal endoscopic sphenopalatine/ posterior nasal artery ligation or cauterization with or without control of the anterior ethmoidal artery. Despite the evidence provided by the current literature, a universal treatment protocol has not yet been established. This review article provides an up-to-date assessment of the available literature, and presents a structured paradigm for the management of posterior epistaxis.

Acta Otorhinolaryngol Ital. 2014 Feb;34(1):1-8.

5. Predictive findings of allergic disease in fiberoptic nasolaryngoscopy.

Brook C1, Noordzij JP, Russell K, Aliphas A, Platt M.

Abstract

OBJECTIVES/HYPOTHESIS:

To determine whether findings on fiberoptic nasolaryngoscopy beyond the nasal cavity can aid in diagnosis of atopy.

STUDY DESIGN:

Case control analysis of patients undergoing fiberoptic nasolaryngoscopy and allergy testing at a single academic institution.



METHODS:

Patients who underwent flexible nasolaryngoscopy for either laryngeal or nasal symptoms and allergy testing by in vitro methods were divided into an atopic group and a nonatopic control group based on results of allergy testing. Three board-certified otolaryngologists who were blinded to the atopic status and symptoms viewed 88 patient videos and filled out an 8-item endoscopic rating questionnaire for each. Correlation between rater scores, endoscopic findings, and atopic status was calculated using Randolph's multirater kappa values and Mann-Whitney test.

RESULTS:

Intrarater reliability was moderate to perfect for all physicians on all questions (kappa 0.545-1.0). Inter-rater reliability was slight to fair (kappa 0.143-0.399) for all questions and the overall impression of atopic disease. Abnormalities of the torus tubarius ($P = .007$) and increased nasopharyngeal secretions ($P = .038$) were predictive of atopic disease, whereas the presence of an adenoid ($P = .08$) and impression of atopic disease ($P = .15$) approached significance. All other endoscopic measures were not predictive of atopic status.

CONCLUSIONS:

Fiberoptic nasolaryngeal findings within the nasopharynx rather than the larynx are predictive of a positive atopic status.

LEVEL OF EVIDENCE:

3b. Laryngoscope, 2014.

6. Clinical analysis and surgical results of 58 paranasal sinus mucoceles.

Martel-Martín M1, Gras-Cabrerizo JR2, Bothe-González C2, Montserrat-Gili JR2, De Juan-Delago M3, Masseur-Solench H2

Abstract

INTRODUCTION:

Mucoceleles are slow-growing, benign lesions found in the paranasal sinuses that are locally destructive, causing bony resorption and displacement of adjacent structures. We present our experience in the surgical treatment of these lesions.

METHODS:

This was a retrospective review of 58 paranasal sinus mucoceles in 54 patients between 1989 and 2012. We describe patient age and sex, mucocele location, clinical features, surgical approaches employed, recurrence and complications.

RESULTS:

The mean age of patients in this series was 59 years; there were 31 males (57%) and 23 females (43%). Thirty-two cases (55%) were located in the frontal or ethmoid-frontal system, 8 (14%) in the ethmoid sinus, 14 (24%) in the maxillary sinus and 4 (7%) in sphenoid sinus. Predisposing factors were present in 55% of the patients and 45% cases were primary. Endoscopic treatment was given to 71% of mucocele



patients, while 29% were treated with external or combined approaches. Recurrence appeared in 4 patients (7%), 2 in the endoscopic surgery group and 2 in the external surgery group.

CONCLUSIONS:

The procedure of choice for management of paranasal sinus mucocoeles is endoscopic drainage. It is a safe approach that gives good results.

Acta Otorrinolaringol Esp. 2014 Aug 12

7. Cigarette smoke promotes eosinophilic inflammation, airway remodeling, and nasal polyps in a murine polyp model.

Lee KI1, Kim DW, Kim EH, Kim JH, Samivel R, Kwon JE, Ahn JC, Chung YJ, Mo JH

Abstract

BACKGROUND:

Exposure to cigarette smoking (CS) is a major risk factor for airway inflammation. However, little is known about the effects of CS exposure on eosinophilic rhinosinusitis with nasal polyps (ERSwNPs). Histopathological and molecular studies were performed to investigate its effects using a murine model of ERSwNPs.

METHODS:

Mice were assigned to one of the following four groups (n = 8 for each group): control group, CS exposure (CS group), ERSwNP (ERS group), and ERSwNPs exposed to CS (ERS + CS group). Histopathological changes were investigated using various stains, including hematoxylin and eosin for inflammation and polyp-like lesions, Sirius red for eosinophils, toluidine blue for mast cells, Alcian blue for goblet cells, and Masson's trichrome stain for collagen fibers. mRNA expression of cytokines from nasal mucosae was measured. Serum IgE and systemic cytokine levels were measured by enzyme-linked immunosorbent assays. The expression of vascular endothelial growth factor (VEGF) and hypoxia-inducible factor (HIF) 1-alpha was evaluated by immunohistochemical staining.

RESULTS:

The ERS + CS group showed more severe symptoms, increased the number of polyp-like lesions, infiltration of eosinophils, goblet cell hyperplasia, and subepithelial fibrosis, compared with the ERS group. Additionally, mRNA expressions of IL-4 and IL-17A were up-regulated in ERS + CS group and higher levels of IL-4, IL-6, IL-17A, and interferon gamma from splenocytes were observed significantly in the ERS + CS group compared with the ERS group. In the ERSwNP murine model, exposure to CS enhanced the expression of VEGF and HIF-1-alpha in nasal epithelial cells.

CONCLUSION:

Chronic exposure to CS aggravated eosinophilic inflammation and promoted airway remodeling and nasal polyp formation in a murine model of ERSwNPs. The underlying mechanism might involve up-regulated expression of VEGF and HIF-1-alpha.

Am J Rhinol Allergy. 2014 May-Jun;28(3):208-14



8. Centripetal endoscopic sinus surgery in chronic rhinosinusitis: A 6-year experience.

de Moreta GS, Cardoso-Lopez I, Poletti-Serafini D.

Abstract

BACKGROUND:

Despite technical advances in the tools designed to facilitate endoscopic nasosinus surgery, the approach used, functional endoscopic sinus surgery, has not undergone major modifications since it was first described in the late 1980s. Centripetal endoscopic sinus surgery (CESS) is a new approach based on taking the medial wall of the orbit and the anterior cranial base as constant dissection landmarks. The aim of this study was to evaluate the long-term outcome of CESS in chronic rhinosinusitis (CRS) by measuring clinical and objective improvement, the need for revision surgery, and the complication rate.

METHODS:

We reviewed 114 patients with CRS with or without polyps who underwent CESS at our center between May 2006 and December 2011. CRS was assessed using the Lund-Mackay staging system. The follow-up period ranged from 18 to 84 months (May 2013).

RESULTS:

Of 114 patients, 83 presented CRS with nasal polyposis, 12 had CRS without nasal polyposis, 17 had Samter's triad, and 2 had antrochoanal polyps. Postoperative evaluation of nasal obstruction and olfaction showed a significant and lasting improvement in these symptoms. Only four patients (3.5%) have required revision surgery, to date.

CONCLUSION:

CESS provided a lasting improvement in patients with CRS, by dramatically reducing the number of reinterventions. This approach is especially indicated in difficult cases, such as recurrent nasal polyposis and massive polyposis, because the dissection is based on constant borders and not influenced by previous surgery or disease extension.

Am J Rhinol Allergy. 2014 May 28

9. Systematic review of immunotherapy for chronic rhinosinusitis.

DeYoung K1, Wentzel JL, Schlosser RJ, Nguyen SA, Soler ZM.

Abstract

BACKGROUND:

Immunotherapy (IT) has been well established as an effective treatment for allergic rhinitis (AR), but little is known about the benefits of IT on clinical outcomes of comorbid chronic rhinosinusitis (CRS). The goal of this publication is to systematically review the literature regarding outcomes of IT in patients with atopic CRS.



METHODS:

A systematic review of the literature was conducted including studies that assessed the efficacy of IT on clinical outcome measures in CRS including without polyp, with polyp, and allergic fungal rhinosinusitis subgroups. Excluded articles were those only reporting outcomes specific to asthma or AR.

RESULTS:

Seven studies met the inclusion and exclusion criteria for this review, none of which were randomized controlled trials. Generally, symptom scores improved in patients treated with IT when compared with baseline data and control patients. Objective endoscopic exam measures improved with IT treatment in short-term studies. Significant improvements were observed in radiographic assessments, and there was a decreased necessity for revision surgery, interventional office visits, and intranasal and oral steroid use.

CONCLUSION:

Conclusions are limited by the paucity of available data on the efficacy of IT for treating CRS-specific outcome measures. There is weak evidence to support the use of IT as an adjunctive treatment in CRS patients, particularly in the postoperative period.

Am J Rhinol Allergy. 2014 Mar-Apr;28(2):145-50.

10. Comparative effectiveness of medical and surgical therapy on olfaction in chronic rhinosinusitis: a prospective, multi-institutional study.

DeConde AS1, Mace JC, Alt JA, Schlosser RJ, Smith TL, Soler ZM.

Abstract

BACKGROUND:

Evidence comparing the impact of medical and surgical management of chronic rhinosinusitis on olfactory function is limited. This study evaluates olfactory outcomes in patients who failed initial medical management and elect either continued medical management or endoscopic sinus surgery (ESS) followed by medical management.

METHODS:

Adult subjects were prospectively enrolled into a nonrandomized, multi-institutional cohort. Baseline characteristics, quality-of-life and objective clinical findings were collected along with 2 quality-of-life disease-specific measures, the Rhinosinusitis Disability Index (RSDI) and Sinonasal Outcome Test (SNOT-22). The primary outcome measure was the posttreatment change (≥ 6 months) in the Brief Smell Identification Test (B-SIT). Bivariate and multivariate analyses compared B-SIT changes by treatment type while controlling for baseline cofactors.

RESULTS:

Subjects ($n = 280$) were enrolled between March 2011 and May 2013. Baseline B-SIT scores (mean \pm standard deviation) were comparable between medical and surgical treatment groups (8.8 ± 3.2 vs 9.0 ± 3.2 ; $p = 0.703$). Subjects with baseline impaired olfaction ($n = 83$; 29.6%) experienced B-SIT improvement in both the medical ($n = 17$; 2.3 ± 2.8 ; $p = 0.005$) and surgical ($n = 66$; 2.1 ± 3.0 ; $p < 0.001$) cohort. A total of 38.6% of subjects with impaired olfaction return to normal olfaction at follow-up with no difference identified



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between treatment modalities ($p = 0.803$). Multivariate analyses identified prior surgery as a predictor of less improvement regardless of treatment modality in patients with baseline impaired olfaction. Average changes in B-SIT scores were comparable between treatment groups ($p > 0.050$).

CONCLUSION:

Subjects electing ESS experienced gains in olfaction comparable to subjects electing continued medical management. Further study with larger sample size and more sensitive measures of olfaction are needed to determine differences between treatment groups.

Int Forum Allergy Rhinol. 2014 Jul 12