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

1. Assessment of sphenoid sinus related anatomic variations with computed tomography.

Turkdogan FT1, Turkdogan KA2, Dogan M3, Atalar MH4.

Abstract

INTRODUCTION:

Frequent and broad application of endoscopic sinus surgery (ESS) in parallel with experience makes it imperative to know the anatomy and the existing pathology very well before surgery. This study examines the association between anomalies in the sphenoid sinus area in paranasal sinuses computed tomography (PNS-CT) and pathological findings and determines variations of sphenoid sinus.

METHODS:

A total of 200 cases (100 women, 100 men) who had PNS-CT in the emergency and radiology polyclinics within the period of one year were included in this study. Bone tissue anomalies and soft tissue pathologies were assessed in the CT.

RESULTS:

Pterygoid process was found in 36.75% of our cases, anterior clinoid pneumatization was found in 21.25%; vidian canal in 34.25%, foramen rotundum in 17.5% and ICA in 12.75% had protrusion into the sphenoid sinus; 8.25% were found to have onodi cell, 11.25% were found to have multiple septation, 16.75% were found to have mucosal thickening and 2.5% were found to have retention cyst.

CONCLUSION:

The importance of PNS-CT in terms of determining anatomic variations before ESC and predicting possible complications during surgery has been emphasized once more. In our study, as sphenoid sinus pneumatization increased, the projection of neighbouring vein and nerve structures into the sinus was found to increase as well.

Pan Afr Med J. 2017 Jun 13;27:109

2. Nasal Injuries in Sports.

Marston AP1, O'Brien EK1, Hamilton GS 3rd2.

Abstract
Nasal trauma is a common consequence of athletic competition. The nasal bones are the most commonly fractured facial bone and are particularly at risk during sports participation. Acute management of trauma to the nose includes thorough evaluation of all injuries and may require immediate management for repair of facial lacerations, epistaxis control, or septal hematoma drainage. Nasal fractures can often be addressed with closed reduction techniques; however, in the setting of complex nasal trauma, an open approach may be indicated. Using appropriate treatment techniques, posttraumatic nasal sequelae can be minimized; most patients report satisfactory long-term nasal form and function.

Clin Sports Med. 2017 Apr;36(2):337-353.

3. Treatment of recurrent posterior epistaxis.

Bro SP1, Bille J, Petersen KB.

Abstract
30% of the patients presenting with epistaxis at emergency wards and otorhinolaryngeal specialist departments have posterior bleeding. Traditional treatment with packing often leads to initial treatment failure, and many patients experience recurrent bleeding within the following month. Recurrent posterior epistaxis should be treated with local electrocautery or endoscopic ligation of the sphenopalatine artery to reduce patient discomfort, hospital stay, risk of treatment failure and recurrence.

Ugeskr Laeger. 2017 Aug 21;179(34).

4. Treatment of Neurogenic Cough with Tramadol: A Pilot Study.

Dion GR1, Teng SE1, Achlatis E1, Fang Y1, Amin MR1.

Abstract
This study employs validated cough assessment tools to prospectively determine the impact of tramadol on cough severity and quality of life in subjects with neurogenic cough. The study was a prospective case series with planned data collection at a tertiary care academic medical center laryngology practice. Sixteen consecutive collected subjects with neurogenic cough prospectively

completed pre- and posttreatment validated cough assessment tools, the cough severity index (CSI) and Leicester Cough Questionnaire (LCQ). All subjects in the study reported at least some improvement in their cough symptoms. In a Wilcoxon signed rank test that compared paired results, CSI scores improved from 23 to 14 and LCQ scores improved from 74 to 103 (P = .003 and P = .005, respectively). This small preliminary assessment suggests that tramadol warrants additional evaluation as a treatment for neurogenic cough.

Otolaryngol Head Neck Surg. 2017 Jul;157(1):77-79.

5. Fungal sinusitis.

Lafont E1, Aguilar C1, Vironneau P2, Kania R2, Alanio A3, Poirée S4, Lortholary O5, Lanternier F6.

Abstract

Although sinusitis affects about 20 % of the population, fungal sinusitis is rare. Aspergillus sp. are most frequently implicated. Fungal sinusitis represents a wide spectrum of disorders, including acute or chronic and invasive or non-invasive forms. Invasive fungal sinusitis may develop in an immunocompromised or diabetic patient, whereas non-invasive fungal sinusitis should be considered in a chronic situation, resistant to antibiotics in immunocompetent patients. Allergic fungal sinusitis is related to hypersensitivity of the host to the fungus. The diagnosis of these infections requires radiological examination and endoscopy with mucosal biopsies examined histologically and mycologically in order to distinguish the different types of sinusitis. In the non-invasive forms, surgical treatment is essential, sometimes combined with antifungal and anti-inflammatory treatment. The invasive forms require antifungal treatment, combined with surgery in some forms, particularly mucormycosis.

Rev Mal Respir. 2017 Jun;34(6):672-692.

6. Robot-assisted endoscope guidance versus manual endoscope guidance in functional endonasal sinus surgery (FESS).

Eichhorn KW1, Westphal R2, Rilk M2, Last C2, Bootz F1, Wahl F2, Jakob M1, Send T1.

Abstract

BACKGROUND:

Having one hand occupied with the endoscope is the major disadvantage for the surgeon when it comes to functional endoscopic sinus surgery (FESS). Only the other hand is free to use the surgical instruments. Tiredness or frequent instrument changes can thus lead to shaky endoscopic images.

METHODS:
We collected the pose data (position and orientation) of the rigid 0° endoscope and all the instruments used in 16 FESS procedures with manual endoscope guidance as well as robot-assisted endoscope guidance. In combination with the DICOM CT data, we tracked the endoscope poses and workspaces using self-developed tracking markers.

RESULTS:
All surgeries were performed once with the robot and once with the surgeon holding the endoscope. Looking at the durations required, we observed a decrease in the operating time because one surgeon doing all the procedures and so a learning curve occurred what we expected. The visual inspection of the specimens showed no damages to any of the structures outside the paranasal sinuses.

CONCLUSION:
Robot-assisted endoscope guidance in sinus surgery is possible. Further CT data, however, are desirable for the surgical analysis of a tracker-based navigation within the anatomic borders. Our marker-based tracking of the endoscope as well as the instruments makes an automated endoscope guidance feasible. On the subjective side, we see that RASS brings a relief for the surgeon.

Acta Otolaryngol. 2017 Oct;137(10):1090-1095

7. Endoscopic Management of Paranasal Sinus Mucoceles: Meta-analysis of Visual Outcomes.

Zukin LM1, Hink EM2, Liao S2, Getz AE3, Kingdom TT2,3, Ramakrishnan VR3,4.

Abstract
Objective Paranasal sinus mucoceles are benign cystic lesions originating from sinus mucosa that can impinge on adjacent orbital structures, causing ophthalmic sequelae such as decreased visual acuity. Definitive treatment requires surgery. We present the first meta-analysis quantifying the effect of preoperative visual function and time to surgery on postoperative visual acuity outcomes. Data Sources PubMed, Ovid, Embase, Web of Science, and the Cochrane Library. Methods Two independent authors systematically reviewed articles describing outcomes after endoscopic sinus surgery for paranasal sinus mucoceles presenting with visual loss. Available data from case reports and series were combined to analyze the associations among preoperative visual acuity, time to surgery, and postoperative outcomes. Results Eighty-five studies were included that provided data on 207 patients. The average presenting visual acuity was 1.57 logMAR (logarithm of the minimum angle of resolution), and the average postoperative visual acuity was 0.21 logMAR, with visual improvement in 71.5% of cases. Preoperative visual acuity ≥1.52 logMAR correlated with postoperative improvement >1 logMAR (R = 0.4887, P < .0001). A correlation was found between

a time to surgery <6 days and postoperative improvement (R = 0.297, P < .0001). Receiver operator curve analysis of these thresholds demonstrated a moderately accurate prognostic ability (area under the curve: 75.1 for preoperative visual acuity and 73.1 for time to surgery). Conclusion Visual loss resulting from paranasal sinus mucoceles is potentially reversible in most cases, even those presenting with poor vision. When possible, surgery should be performed promptly after diagnosis, but emergency surgery does not appear to be necessary for vision restoration.

Otolaryngol Head Neck Surg. 2017 Jul 1:194599817717674.

8. Sinonasal inverted papilloma: From diagnosis to treatment.

Lisan Q1, Laccourreye O1, Bonfils P2.

Abstract
Inverted papilloma is a rare sinonasal tumor that mainly occurs in adults during the 5th decade. Three characteristics make this tumor very different from other sinonasal tumors: a relatively strong potential for local destruction, high rate of recurrence, and a risk of carcinomatous evolution. Etiology remains little understood, but an association with human papilloma virus has been reported in up to 40% of cases, raising the suspicions of implication in the pathogenesis of inverted papilloma. Treatment of choice is surgery, by endonasal endoscopic or external approach, depending on extension and tumoral characteristics. Follow-up is critical, to diagnose local relapse, which is often early but may also be late. The seriousness of this pathology lies in its association with carcinoma, which may be diagnosed at the outset or at recurrence during follow-up. It is important to diagnose recurrence to enable early treatment, especially in case of associated carcinoma or malignancy. A comprehensive review of the international literature was performed on PubMed and Embase, using the following search-terms: "sinonasal" [All Fields] AND ("papilloma, inverted" [MeSH Terms] OR ("papilloma" [All Fields] AND "inverted" [All Fields]) OR "inverted papilloma" [All Fields] OR ("inverted" [All Fields] AND "papilloma" [All Fields])). We reviewed all articles referring to sinonasal inverted papilloma published up to January 2015. The present article updates the state of knowledge regarding sinonasal inverted papilloma.

Eur Ann Otorhinolaryngol Head Neck Dis. 2016 Nov;133(5):337-341.

9. Management of Frontal Sinus Tumors.

Selleck AM1, Desai D1, Thorp BD1, Ebert CS1, Zanation AM2.

Abstract
The most common primary tumors of the frontal sinus are osteomas and inverted papillomas, although a variety of other tumors involving this space have been reported. With the advent of new surgical techniques and instrumentation, an endoscopic approach to this region has become feasible. The preoperative assessment and decision making must take into account the complexity of frontal sinus anatomy, tumor type, tumor location, and associated attachments. These procedures allow adequate visualization, tumor removal, and postoperative monitoring, and preserve fairly normal sinus function. Open techniques may also be required and should be in the surgeon's armamentarium.

Otolaryngol Clin North Am. 2016 Aug;49(4):1051-65.

10. Anosmia-A Clinical Review.

Boesveldt S1, Postma EM1,2, Boak D3, Welge-Luessen A4, Schöpf V5,6, Mainland JD7,8, Martens J9, Ngai J10, Duffy VB11.

Abstract
Anosmia and hyposmia, the inability or decreased ability to smell, is estimated to afflict 3-20% of the population. Risk of olfactory dysfunction increases with old age and may also result from chronic sinonasal diseases, severe head trauma, and upper respiratory infections, or neurodegenerative diseases. These disorders impair the ability to sense warning odors in foods and the environment, as well as hinder the quality of life related to social interactions, eating, and feelings of well-being. This article reports and extends on a clinical update commencing at the 2016 Association for Chemoreception Sciences annual meeting. Included were reports from: a patient perspective on losing the sense of smell with information on Fifth Sense, a nonprofit advocacy organization for patients with olfactory disorders; an otolaryngologist's review of clinical evaluation, diagnosis, and management/treatment of anosmia; and researchers' review of recent advances in potential anosmia treatments from fundamental science, in animal, cellular, or genetic models. As limited evidence-based treatments exist for anosmia, dissemination of information on anosmia-related health risks is needed. This could include feasible and useful screening measures for olfactory dysfunction, appropriate clinical evaluation, and patient counseling to avoid harm as well as manage health and quality of life with anosmia.

Chem Senses. 2017 Sep 1;42(7):513-523.