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

1. A 20-year experience in microsurgical treatment of choanal atresia.

Rodríguez H1, Cuestas G2, Passali D1.

Abstract

INTRODUCTION AND OBJECTIVES:

Choanal atresia is the most common congenital nasal anomaly. Diagnosis is confirmed by endoscopic examination and computed tomography. The definitive treatment is surgical, and different surgical techniques and approaches are used. We describe our experience in transnasal microsurgical treatment of congenital choanal atresia.

METHODS:

We retrospectively evaluated 49 patients with congenital choanal atresia operated in the Department of Respiratory Endoscopy over a period of 20 years. The clinical variables analysed were type of atretic plate, age at diagnosis and surgery, associated malformations, maternal history of hyperthyroidism treated with methimazole during pregnancy, mode of airway stabilisation before surgery, surgical technique, complications, and outcome.

RESULTS:

Mixed bilateral choanal atresia was the most frequent (29 cases). Its incidence was higher in females (61.2%). Almost 51% of patients showed associated malformations, and 7 had a history of maternal hyperthyroidism treated with methimazole during pregnancy. The surgical procedure consisted of a transnasal microscopic approach and placement of a silicone endonasal stent for one to 12 weeks. Thirty-five patients required revision after surgery. Nine patients had complications. Suitable nasal ventilation was achieved in 46 patients (93.9%). One patient died of causes unrelated to the surgery. Two patients with permeable choanae remain with tracheotomy.

CONCLUSION

The transnasal microsurgical repair with endonasal stent proved to be a safe and effective procedure

Acta Otorrinolaringol Esp. 2014 Mar-Apr; 65(2):85-92

2. Transoral palate-sparing nasopharyngectomy with the Flex® System: preclinical study.

Richmon JD1.

Abstract

OBJECTIVES/HYPOTHESIS:

The nasopharynx remains one of the most challenging areas to surgically access given its deep location, narrow confines, and surrounding critical neurovascular anatomy. Various open and endoscopic approaches have been developed, all of which have been limited to some degree in their ability to bimanually instrument and visualize in this area.

STUDY DESIGN:

Cadaveric dissection.

METHODS:

Study using one fresh human cadaver. A novel, highly articulated endoscope with flexible instrumentation, the Flex System, was placed in the oral cavity and advanced around the soft palate into the nasopharynx to perform a nasopharyngectomy.

RESULTS:

A complete nasopharyngectomy was accomplished with the Flex System without palatal incisions or extended-access approaches.

CONCLUSIONS:

The Flex System is a novel computer-assisted flexible endoscope with a highly articulated scope and flexible instruments that was successfully used to perform a nasopharyngectomy while avoiding any additional incisions. This system holds promise in minimally invasive skull base surgery

Laryngoscope. 2015 Feb; 125(2):318-22

3. Developing a Laddered Algorithm for the Management of Intractable Epistaxis: A Risk Analysis.

Leung RM1, Smith TL2, Rudmik L3.

Abstract

Importance:

For patients with epistaxis in whom initial interventions, such as anterior packing and cauterization, had failed, options including prolonged posterior packing, transnasal endoscopic sphenopalatine artery ligation (TESPAL), and embolization are available. However, it is unclear which interventions should be attempted and in which order. While cost-effectiveness analyses have suggested that TESPAL is the most responsible use of health care resources, physicians must also consider patient risk to maintain a patient-centered decision-making process.

Objective:

To quantify the risk associated with the management of intractable epistaxis.

Design and Setting:

A risk analysis was performed using literature-reported probabilities of treatment failure and adverse event likelihoods in an emergency department and otolaryngology hospital admissions setting. The literature search included articles from 1980 to May 2014. The analysis was modeled for a 50-year-old man with no other medical comorbidities. Severities of complications were modeled based on Environmental Protection Agency recommendations, and health state utilities were monetized based on a willingness to pay $22 500 per quality-adjusted life-year. Six management strategies were developed using posterior packing, TESPAL, and embolization in various sequences (P, T, and E, respectively).

Main Outcomes and Measures:

Total risk associated with each algorithm quantified in US dollars.

Results:

Algorithms involving posterior packing and TESPAL as first-line interventions were found to be similarly low risk. The lowest-risk approaches were P-T-E ($2437.99 [range, $1482.83-$6976.40]), T-P-E ($2840.65 [range, $1136.89-$8604.97]), and T-E-P ($2867.82 [range, $1141.05-$9833.96]). Embolization as a first-line treatment raised the total risk significantly owing to the risk of cerebrovascular events (E-T-P, $11 945.42 [range, $3911.43-$31 847.00]; and E-P-T, $11 945.71 [range, $39 19.91-$31 767.66]).

Conclusions and Relevance:

Laddered approaches using TESPAL and posterior packing appear to provide the lowest risk. Combining risk and cost-effectiveness perspectives, we recommend a laddered approach to intractable epistaxis with TESPAL first, followed by either embolization or posterior packing

JAMA Otolaryngol Head Neck Surg. 2015 Feb 26

4. [Bevacizumab: A new success in hereditary hemorrhagic telangiectasia.]

Bennesser Alaoui H1, Lehraiki M2, Hamaz S2, El Attar N2, Fakhreddine N2, Serraj K2.

Abstract

INTRODUCTION:

Hereditary hemorrhagic telangiectasia (HHT), is a rare, hereditary vascular dysplasia, characterized by recurrent epistaxis, mucocutaneous telangiectasias and visceral arteriovenous malformations. The vascular endothelial growth factor VEGF seems to play a crucial role in the pathogenesis of this disease. Recently bevacizumab, a humanized monoclonal VEGF inhibitor, has shown promise in treating patients with HHT.

CASE REPORT:

A 66-year-old man, having HHT since the age of 30 years with recurrent epistaxis related to telangiectasia at the nasal septum and chronic iron deficiency anemia requiring frequent blood transfusions with iron infusions. The assessment of his disease showed septal perforation, telangiectasis in the proximal jejunum and terminal ileum, and pulmonary arteriovenous malformations. There was no improvement, despite iron infusions, repeated blood transfusions and cauterization. The patient was treated with bevacizumab at a dose of 5mg/kg/infusion every 2 weeks and was given 6 cycles. Bevacizumab, was effective without side effects.

DISCUSSION:

It has been hypothesized that HHT is related to an imbalanced state between antiangiogenic factors and proangiogenic factors. Mutations of 3 genes are actually identified in HHT: ENG, ACVRL1, MADH4. The management of patients with HHT currently based on screening for visceral arteriovenous malformations and symptomatic measures are often disappointing. However, the angiogenic nature of this disease suggests an interesting therapy by using angiogenesis inhibitor. Therefore, bevacizumab was introduced as a potential therapy for HHT. Some clinical cases or small series report the efficacy of bevacizumab, in HHT with recurrent epistaxis, refractory iron deficiency anemia, gastrointestinal bleeding and also in liver vascular malformations with high cardiac output failure.

CONCLUSION:

The use of modulators of angiogenesis such as bevacizumab is a possible therapeutic target in HHT.

Rev Med Interne. 2015 Jan 13.

5. Ultrasonography in the diagnosis of nasal bone fractures: a comparison with conventional radiography and computed tomography.

Lee IS1, Lee JH, Woo CK, Kim HJ, Sol YL, Song JW, Cho KS.

Abstract

The purpose of this study was to evaluate and compare the diagnostic efficacy of ultrasonography (US) with radiography and multi-detector computed tomography (CT) for the detection of nasal bone fractures. Forty-one patients with a nasal bone fracture who underwent prospective US examinations were included. Plain radiographs and CT images were obtained on the day of trauma. For US examinations, radiologist used a linear array transducer (L17-5 MHz) in 24 patients and hockey-stick probe (L15-7 MHz) in 17. The bony component of the nose was divided into three parts (right and left lateral nasal walls, and midline of nasal bone). Fracture detection by three modalities was subjected to analysis. Furthermore, findings made by each modality were compared with intraoperative findings. Nasal bone fractures were located in the right lateral wall (n = 28), midline of nasal bone (n = 31), or left lateral wall (n = 31). For right and left lateral nasal walls, CT had greater sensitivity and specificity than US or radiography, and better agreed with intraoperative findings. However, for midline fractures of nasal bone, US had higher specificity, positive predictive value, and negative predictive value than CT. Although two US evaluations showed good agreements at all three sites, US findings obtained by the hockey-stick probe showed closer agreement with intraoperative findings for both lateral nasal wall and midline of nasal bone. Although CT showed higher sensitivity and specificity than US or radiography, US found to be helpful for evaluating the midline of nasal bone. Furthermore, for US examinations of the nasal bone, a smaller probe and higher frequency may be required.

Eur Arch Otorhinolaryngol. 2015 Mar 8

6. Clinical considerations in the use of sublingual immunotherapy for allergic rhinitis.

Lee S1, Nolte H, Benninger MS.

Abstract

BACKGROUND:

Allergen immunotherapy (AIT) has been in practice for more than 100 years. However, research in novel routes and delivery methods of immunotherapy to treat allergic rhinitis (AR) and conjunctivitis has only recently occurred in the United States, where the predominant form of AIT provided is largely via a subcutaneous immunotherapy (SCIT) route. AIT may prevent new sensitizations, improve symptoms, decrease medication usage, and prevent allergic asthma. Although AIT is the only potentially curative treatment for AR, access and adherence continue to be problematic. Only a fraction of eligible patients actually undergo treatment, and attrition rates are high. An obvious limitation of SCIT includes the requirement of regular injections to be provided in the physician's office due to the potential for

anaphylaxis. Sublingual immunotherapy (SLIT) for home administration has been investigated as a potential alternative to address this limitation of SCIT.

METHODS:

A literature review was performed including the current findings from randomized clinical trials and meta-analyses with a discussion of the most recent evidence for the efficacy, safety, and dosing of allergen SLIT.

RESULTS:

The current data suggest that SLIT is effective for treatment of seasonal allergies, can potentially prevent asthma, and has a favorable safety profile. Head-to-head studies, however, are few, and comparative effectiveness still remains to be answered. Optimal treatment algorithms for SLIT have not yet been established, with wide variation in dosage selection and schedules. Similarly to SCIT, only a few allergens such as ragweed and grass pollen have been found to be effective in large clinical trials.

CONCLUSION:

Recent data indicate that SLIT is an effective treatment modality for seasonal AR, improve quality of life, and can potentially prevent asthma but head-to head studies comparing SLIT to SCIT are needed

Am J Rhinol Allergy. 2015 Mar;29(2):106-14

7. Odontogenic sinusitis: a case series studying diagnosis and management.

Wang KL1, Nichols BG, Poetker DM, Loehrl TA.

Abstract

BACKGROUND:

Odontogenicsinusitis is a well-recognized, but understudied form of sinusitis. Odontogenic sinusitis requires unique diagnostic criteria and a treatment regimen that differs from non-odontogenic sinusitis. The purpose of this article is to present a case series of patients with odontogenic sinusitis in order to clarify key disease characteristics and management techniques.

METHODS:

Retrospective case series of 55 patients with odontogenic sinusitis. Each patient underwent chart and imaging review to analyze demographic factors, diagnostic criteria, clinical course, and management.

RESULTS:

Fifty-five patients were identified retrospectively. Forty-four were diagnosed at initial visit. Twenty-eight (64%) of these patients were diagnosed by computed tomography (CT) scan showing dental pathology, 11 (25%) by known temporal relationship to a dental procedure, and 5 (11%) by presentation with oral-antral fistula. Only 65% of

radiology reports for all patients mentioned dental pathology. Overall, 21 (38%) patients had disease resolution. Of these, 7 (33%) resolved with endoscopic sinus surgery (ESS) alone, 7 (33%) resolved with concurrent ESS and dental surgery, 2 (10%) resolved with dental surgery alone, 2 (10%) resolved with ESS after failing dental surgery, 2 (10%) resolved with medical management alone, and 1 (5%) resolved with medical management after failing dental surgery. Forty-six (84%) patients had unilateral odontogenic sinusitis. The Lund-Mackay score for all patients was (mean ± standard deviation [SD]) 4.0 ± 3.2.

CONCLUSION:

Odontogenic sinusitis is often misdiagnosed. Radiology reports commonly do not mention dental pathology. Management of odontogenic sinusitis needs to be tailored to each individual patient and involves varying combinations of medical management, dental surgery, and ESS.

Int Forum Allergy Rhinol. 2015 Mar 2.

8. The impact of sinus surgery on sleep outcomes.

Rotenberg BW1, Pang KP.

Abstract

BACKGROUND:

Functional endoscopic sinus surgery (FESS) is standard for patients who fail medical management of chronic sinusitis (CRS). The beneficial impact of surgery on CRS is well known. However, patients often note that their sleep is improved after FESS even without simultaneous correction of nasal obstruction. Sleep outcomes after FESS are significantly understudied. Hence in the current study we look to characterize patient sleep quality following sinus surgery.

METHODS:

Data was gathered from 2 sites (Western University [Canada] and the Asia Sleep Center [Singapore]). Patients meeting diagnostic criteria for CRS without nasal polyposis (CRSsNP) were included. Cases with polyposis and those who needed a septoplasty were excluded so as to purely analyze the impact of the sinus surgery on sleep. Sleep outcomes recorded at baseline just prior to surgery and 6 months after surgery were the Epworth Sleepiness Scale (EpSS) and the Pittsburgh Sleep Quality Index (PSQI). We also recorded 22-item Sino-Nasal Outcome Test (SNOT-22) scores and Nasal Obstruction Symptom Evaluation (NOSE) scores. Comparisons were made with paired t tests.

RESULTS:

Fifty-three patients met inclusion/exclusion criteria. Sleep outcomes showed a clinically and statistically significant improvement (EpSS before FESS = 14.7 ± 3.1, EpSS after FESS = 9.1 ± 1.1, $p < 0.01$; PSQI before FESS = 10.9 ± 2.8, PSQI after FESS = 5.3 ± 2.2, $p < 0.01$). CRS-specific outcomes were improved as well. Nasal obstruction scores did not change significantly.

CONCLUSION:

FESS improved sleep outcomes for the patients in our study. This was independent of correction of nasal obstruction. Sinus surgery for CRSsNP has a beneficial impact on sleep; this novel information can be used during patient counseling and for justification to third-party payers

Int Forum Allergy Rhinol. 2015 Jan 26

9. Novel treatment of allergic fungal sinusitis using omalizumab.

Evans MO 2nd1, Coop CA.

Abstract

A case report of recalcitrant allergic fungalsinusitis (AFS) refractory to systemic corticosteroids and multiple functional endoscopic sinus surgeries (FESSs) treated with anti-IgE antibody omalizumab is reported. AFS is often classified with chronic rhinosinusitis (CRS). Although similar symptoms are among the two diseases, AFS has a unique pathophysiology. Patients with AFS demonstrate type 1 hypersensitivity to fungal allergens, increased total serum IgE, increased CD8(+) T-cell prevalence, and IL-4 and IL-5 response. Omalizumab should be considered in the treatment of AFS.

Allergy Rhinol (Providence). 2014 Jan;5(3):172-4..

10. Endoscopic endonasal approaches to infratemporal fossa tumors: a classification system and case series.

Taylor RJ1, Patel MR, Wheless SA, McKinney KA, Stadler ME, Sasaki-Adams D, Ewend MG, Germanwala AV, Zanation AM.

Abstract

OBJECTIVES/HYPOTHESIS:

To propose a clinically applicable anatomic classification system describing three progressive endoscopic endonasal approaches (EEAs) to the infratemporal fossa (ITF) and their potential sequelae. Overall feasibility and outcomes of these approaches are presented through a consecutive case series.

STUDY DESIGN:

Description of classification system for EEAs to the ITF and case series.

METHODS:

A classification system of EEAs to ITF tumors was created based on the senior author's clinical experience and cadaveric dissection. A retrospective chart review of 21 child and adult patients with primary ITF tumors treated by these approaches from 2008 to 2012 at a tertiary-care academic medical center was conducted.

RESULTS:

Three progressive EEAs to ITF tumors were defined: 1) a transpterygopalatine fossa approach, 2) a transmedialpterygoid plate approach, and 3) a translateralpterygoid plate approach. Twenty-one patients treated with these approaches were identified consecutively, with a mean age of 44.2 years (range, 11-79 years). Tumors primarily involving the pterygopalatine fossa and not the ITF were excluded. Pathology included three advanced juvenile nasopharyngeal angiofibromas, three adenoid cystic carcinomas, two recurrent inverted papillomas, two trigeminal schwannomas, and 11 other diverse skull base pathologies. No intraoperative or postoperative complications occurred, with a mean follow-up of 21.5 months (range, 1-55 months). Expected potential sequelae such as V2/palatal numbness, Eustachian tube dysfunction, and trismus occurred in 10/21 patients.

CONCLUSIONS:

EEAs to ITF tumors are technically feasible with low risk of complications for well-selected patients. The proposed classification system is useful for anticipating potential sequelae for each approach

Laryngoscope. 2014 Nov; 124(11):2443-50