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

1. Transnasal endoscopic choanalplasty for repairing congenital choanal atresia.

Sun P, Ge W, Liu W, Zhang Y.

Abstract

OBJECTIVE:

To observe the effect of transnasal endoscopic choanalplasty for repairing congenital choanal atresia.

METHOD:

A retrospective analysis of 15 patients with choanal atresia in Beijing Children's Hospital from January 2006 to September 2012 was made. All the 15 patients accepted electronic nasopharyngoscope examination and CT scanning of the paranasl sinus. The age was between 4 years old and 6 years old. Seven of them were male and 8 were female. Six cases were unilateral atresia, 9 were bilateral atresia. Ten cases (16 sides) were membranous atresia, 2 cases (4 sides) were mixed type atresia and 3 cases (4 sides) were bony atresia. All the patients accepted transnasal endoscopic choanalplasty. A tube was placed in order to support the enlarged nostrils. The nasal tube should be retained for 3 months and kept patency by routine care. Three months after operation, the tube could be removed. The patients were told to do physiological saline nasal irrigation and receive regular review by transnasal endoscopy.

RESULT:

The patients were followed up for 1 year postoperatively by electronic nasopharyngoscope examination. There was no failure case in all the 15 patients. The total effective rate was 100%.

CONCLUSION:

Transnasal endoscopic choanalplasty had better efficacy and safety in the treatment of congenital choanal atresia

ZhonghuaEr Bi Yan HouTou Jing WaiKeZaZhi. 2014 Jul; 49(7):564-7

2. Endoscopic Anatomy of the Skull Base Explored Through the Nose.

Solari D, Chiaramonte C, Di Somma A, Dell'AversanaOrabona G, de Notaris M, Angileri FF, Cavallo LM, Montagnani S, Tschabitscher M, Cappabianca P.

Abstract

OBJECTIVE:

Different surgical approaches have been used over the years in order to access skull base. The endoscopic endonasal approach represents a direct and minimally invasive approach to the suprasellar, retrosellar, and retroclival space, with the advantage of avoid brain retraction and visualize safely and effectively the surgical target. The present contribution aims to provide anatomical details of the skull base as seen from below (i.e., via an endoscopic endonasal approach).

METHODS:

Five human cadaver heads were dissected. The anatomical neurovascular structures within the skull base were visualized and carefully described from an endoscopic endonasal view. The advantages and limitations of the endoscopic endonasal route were discussed as well.

RESULTS:

The development of endoscopic techniques has opened different perspectives over the skull base surgery. Endonasal surgery provides access to a wide range of skull base lesions via a natural surgical corridor (i.e., the nasal cavities).

World Neurosurg. 2014 Dec; 82(6S):S164-S170

3. The effects of pregnancy on nasal physiology.

Demir UL, Demir BC, Oztosun E, Uyaniklar OO, Ocakoglu G.

Abstract

BACKGROUND:

Nasal congestion that is not present before pregnancy represents a distinct clinical entity called pregnancy rhinitis. The aim of this study is to evaluate the clinical characteristics of nasal physiology over the course of pregnancy.

METHODS:

The study was conducted with 85 pregnant women and 26 nonpregnant controls. We measured nasal airway patency objectively via acoustic rhinometry (ARM) and anterior rhinomanometry (RMM) and subjectively via the Nasal Obstruction Symptom Evaluation (NOSE) scale in each trimester and compared the results to those of the controls.

RESULTS:

The NOSE scores of control and pregnant women showed no difference ($p = 0.866$). Minimal cross-sectional area (MCA1; minimal cross sectional area at nasal valve and MCA2; minimal cross sectional area at the level where the head of inferior turbinate is placed) decreased significantly between the first and third trimesters: first trimester 0.37 cm2 , third trimester 0.31 cm2 . There was no difference between each trimester with regard to total nasal resistance. The correlation analysis between the NOSE score and both total volume and MCA1 in all patients showed no significance ($r = -0.10$, $p = 0.318$; $r = -0.04$, $p = 0.654$, respectively).

CONCLUSION:

Pregnancy affects nasal physiology adversely and impairs nasal breathing in some women. However, based on the findings of this study, we concluded that this clinical entity may not be considered as a disease without complementary symptoms despite the presence of objective changes in nasal parameters.

Int Forum Allergy Rhinol. 2014 Oct 27

4. Refinement treatment of nasal bone fracture: A 6-year study of 329 patients.

Chou C, Chen CW, Wu YC, Chen KK, Lee SS.

Abstract

BACKGROUND:

The reliability of X-ray radiography for diagnosing nasal bone fractures (NBFs) remains controversial. Recent studies show that, for determining the orientation and location of the displaced/depressed fracture, nasal sonography is as accurate as facial computed tomography. This retrospective study compared conductor-assisted nasal sonography (CANS) to conventional diagnostic tools and reported subjective patient satisfaction and discomfort after closed reduction combined with tube technique.

METHODS:

This retrospective study reports the results of 329 refinement treatments for nasal bone fracture (including 199 men and 130 women) performed from 2005 to 2011. All patients were assessed with CANS and completed a survey immediately prior to removing the packing. Questionnaires were adapted from the nasal obstruction symptom evaluation (NOSE) scale.

RESULTS:

The study found that CANS has a 97.2% rate of accuracy in diagnosing NBF. The visual analog scale scores of nasal obstruction, nasal congestion, sleep disturbance, trouble breathing, and inability to move air through the nose were analyzed. The experimental group scores were significantly different from the control group for all scores ($p < 0.001$).

CONCLUSION:

Compared to conventional methods, CANS is more accurate for detecting NBF. We recommend its use as an alternative tool for diagnosing a nasal fracture. Because the tube technique balances pressure between the nasopharynx and middle ear during swallowing, patient comfort is enhanced. Application of these modifications can improve accuracy in diagnosing NBF and can improve the quality of NBF treatment.

Asian J Surg. 2014 Nov 6. pii: S1015-9584(14)00084-0

5. Optimal management of hereditary hemorrhagic telangiectasia.

Garg N, Khunger M, Gupta A, Kumar N.

Abstract

Hereditary hemorrhagic telangiectasia (HHT), also known by the eponym Osler-Weber-Rendu syndrome, is a group of related disorders inherited in an autosomal dominant fashion and characterized by the development of arteriovenous malformations (AVM) in the skin, mucous membranes, and/or internal organs such as brain, lungs, and liver. Its prevalence is currently estimated at one in 5,000 to 8,000. Most cases are due to mutations in the endoglin (HHT1) or ACVRLK1 (HHT2) genes. Telangiectasias in nasal and gastrointestinal mucosa generally present with recurrent/chronic bleeding and iron deficiency anemia. Larger AVMs occur in lungs (~40%-60% of affected individuals), liver (~40%-70%), brain (~10%), and spine (~1%). Due to the devastating and potentially fatal complications of some of these lesions (for example, strokes and brain abscesses with pulmonary AVMs), presymptomatic screening and treatment are of utmost importance. However, due to the rarity of this condition, many providers lack an appreciation for the whole gamut of its manifestations and complications, age-dependent penetrance, and marked intrafamilial variation. As a result, HHT remains frequently underdiagnosed and many families do not receive the appropriate screening and treatments. This article provides an overview of the clinical features of HHT, discusses the clinical and genetic diagnostic strategies, and presents an up-to-date review of literature and detailed considerations regarding screening for visceral AVMs, preventive modalities, and treatment options.

J Blood Med. 2014 Oct 15;5: 191-206

6. Benefits, limits and danger of ephedrine and pseudoephedrine as nasal decongestants.

Laccourreye O, Werner A, Giroud J, Couloigner V, Bonfils P, Bondon-Guitton E.

Abstract

Due to their vasoconstrictive action on the nasal mucosa, ephedrine and pseudoephedrine are highly efficient amines for relief of nasal congestion. As with any vasoconstrictor and as underscored by the French Society of Otorhinolaryngology in its 2011 guideline, these molecules should not be used in patients under the age of 15. Furthermore, due to unpredictable severe cardiovascular and neurological adverse events that may occur even at low dose and in the absence of any pre-existing pathology, they should not be prescribed for the common cold, and ENT physicians must carefully weigh the risk/benefit ratio in patients with allergic rhinitis. Distribution should be regulated and over-the-counter sales banned.

Eur Ann Otorhinolaryngol Head Neck Dis. 2014 Dec 19. pii: S1879-7296(14)00166-5

7. Surgical treatment of pediatric rhinosinusitis.

Isaacson G.

Abstract

Pediatric rhinosinusitis is a common sequela of upper respiratory infections in children. It is usually a self-limited disease, sometimes requiring antibiotic therapy. Surgery may be indicated in children who suffer complication of acute rhinosinusitis, severe recurrent acute rhino sinusitis, rhinosinusitis in cystic fibrosis with or without polyposis, chronic rhinosinusitis refractory to maximal medical management, allergic fungal sinusitis, and paranasal sinus mucoceles. Surgical options include, adenoidectomy, sinus puncture and lavage, open surgical approaches, endoscopic sinus surgery, balloon sinuplasty, and turbinectomy or turbinate reduction. This paper reviews the anatomy and physiology of rhinosinusitis in children and current knowledge of the indications and best methods of surgical treatment.

Minerva Pediatr. 2014 Nov 4

8. Objective radiographic density measurements of sinus opacities are not strong predictors of noninvasive fungal disease.

Killeen DE, Sedaghat AR, Cunnane ME, Gray ST.

Abstract

BACKGROUND:

High-density paranasal sinus opacities are often deemed consistent with fungal elements. No studies of objective quantitative radiographic density measures have been performed to support this assertion.

METHODS:

A consecutive series of 120 patients with chronic rhinosinusitis who underwent maxillary antrostomy with microbiological evaluation of contents within 60 days of sinus computed tomography scanning was investigated. Radiographic density characteristics of opacities in cultured maxillary sinuses (minimum, maximum, average, and standard deviation of Hounsfield units [HUstd]) were recorded. Receiver operator characteristic (ROC) curves were used to analyze the accuracy of radiographic characteristics in predicting fungal opacities.

RESULTS:

Of 133 maxillary sinus opacities, 22 were ultimately consistent with noninvasive fungal disease: 11 allergic fungalrhinosinusitis and 11 fungal balls. Fungal balls had higher-density components and were more heterogeneous and allergic fungalmucin was generally more radiodense. These findings were reflected by statistically significant ROC curves for maximum HU (p = 0.019) and HUstd (p = 0.023) for fungal balls and for average HU (p = 0.002) for allergic fungalmucin. A maximum HU cutoff of 334.0 detected fungal balls with 90.9% sensitivity and 72.7% specificity. An average HU cutoff of 42.9 HU detected allergic fungalmucin with 100% sensitivity and 46.3% specificity, although specificity improved to 73.2% with inclusion of nasal polyposis as a second requirement.

CONCLUSION:

Higher average HU more accurately predicts allergic fungalmucin whereas heterogeneity/high-density components more accurately predict fungal balls. No objective radiographic density measure, in isolation, is both sensitive and specific in predicting noninvasive fungalsinusitis

Am J Rhinol Allergy. 2014 Nov;28(6):483-6

9. Endoscopic Endonasal Surgery for Pituitary Adenomas.

Cappabianca P, Cavallo LM, Solari D, Stagno V, Esposito F, de Angelis M.

Abstract

BACKGROUND:

Pituitary surgery is a continuous evolving specialty of the neurosurgeons' armamentarium, which requires precise anatomic knowledge, technical skills, and integrated culture of the pituitary pathophysiology. Actually it cannot be considered only from a technical standpoint, but rather a procedure resulting from the close cooperation among different specialists (e.g., ophthalmologists, neuroradiologists, endocrinologists, neurosurgeons, otorhinolaryngologists, anesthesiologists, neurophysiologists, pathologists, instrument manufacturers).

METHODS:

The "pure" endoscopic endonsal surgery is a procedure performed through the nose, with the endoscope alone throughout the whole approach and without any transsphenoidal retractor. The procedure consists of three main aspects: exposure of the lesion, removal of the relevant pathology, and reconstruction, going through three different steps, the nasal, the sphenoid, and the sellar phases.

CONCLUSIONS:

The endoscopic approach offers some advantages due to the endoscope itself: a superior close-up view of the relevant anatomy and an enlarged working angle are provided with an increased panoramic vision inside the surgical area. Concerning results in terms of mass removal, relief of clinical symptoms, cure of the underlying disease, and complication rate, these are, at least, similar to those reported in the major microsurgical series, but patient compliance is by far better. Besides the advantages to the patients, the surgeons-because of the wider and closer view of the surgical target area and the increase of the scientific activity as from the peer-reviewed literature on the topic in the past 10 years, the smoothing of interdisciplinary cooperation-, and the institutions (shorter postoperative hospital stay and increase of the case load)- the adoption of endoscopy in transsphenoidal surgery has gained a strong foothold.

World Neurosurg. 2014 Dec; 82(6S):S3-S11

10. The Problem of High Recurrence Rate in Endoscopic Revision Surgery for Inverted Papilloma.

Tomazic PV, Hubmann F, Stammberger H.

Abstract

Background: Inverted papilloma (IP) is a benign lesion of the sinonasal tract. Clinical problems arise from expansive growth and bone destruction, a possible association with malignancy and a tendency to recur. Complete subperiostal/subperichondral removal via endoscopic sinus surgery (ESS) is the treatment of choice. The purpose of this study was to evaluate the theory of an elevated recurrence rate after secondary resection. **Patients and Methods:** The retrospective analysis comprised 66 patients, who were treated for IP at the University Clinic of Otorhinolaryngology Graz between 2000 and 2011. The mean follow-up was 33.85 months. 18 patients were lost to follow-up.**Results:**The study group consisted of 51 males and 15 females. 65 (98.5%) of which had been operated on purely endoscopic or via a combined approach. Recurrence was diagnosed in 14 cases (29.2%), on average 11.9 months after surgery, 71.5% of these in the first 12 months. The recurrence rate was significantly higher after revision surgery (50%) when patients had been previously operated elsewhere as compared to primary resection (12%). The analysis also showed a significant increase in recurrences for Krouse stages 3 and 4.**Conclusion:**The collected data confirms ESS as the best treatment option. Due to recurrences and malignant transformation, follow-up should be performed within 5 years postoperatively. We could statistically verify the prognostic value of Krouse's staging system. The elevated recurrence rate after secondary resection emphasises the significance of removing the tumor completely during the first surgery.

Laryngorhinootologie. 2014 Sep 25