PARS Reader's Digest

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

1. **Congenital nasal obstruction: clinical and radiologic review.**

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Abstract

Congenital nasal obstruction can result in neonatal respiratory distress because neonates are obligate nasal breathers. Therefore, all physicians who deal with infants should be familiar with the structural abnormalities, masses, and syndromes that cause nasal obstruction, so that appropriate work-up and treatment can be promptly initiated. This paper reviews the embryology of the nasal passage and then continues with the different causes of nasal obstruction. Special attention is paid to the presentation, physical exam findings, and imaging modality of choice.

Eur J Pediatr. 2012 Apr;171(4):641-50.

2. **Congenital and acquired developmental problems of the upper airway in newborns and infants.**

Lyons M, Vlastarakos PV, Nikolopoulos TP.

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Abstract

AIM:

To review the current knowledge on congenital and acquired developmental problems of the upper airway in newborns and infants.

DATA SYNTHESIS:

Causes of airway obstruction include problems with the nasal airway (choanal atresia), craniofacial syndromes (Apert syndrome, Crouzon syndrome), problems with facial/tongue anatomy (Pierre-Robin syndrome), the tongue (Down syndrome), or the larynx (laryngomalacia, vocal cord palsy, subglottic stenosis, subglottic hemangioma), along with lower developmental problems (tracheo/bronchomalacia). After establishing a safe airway, a detailed assessment and appropriate management are necessary.

Treatment may involve simple observation, conservative management, chest physiotherapy, CPAP ventilation, and surgery, urgently or in a second phase.

CONCLUSION:

Upper airway diseases in neonates and infants may be life threatening, or challenging regarding diagnosis and management. There should be a very low threshold for referring these children, after establishing a safe airway, for a specialist opinion and care in a tertiary unit, if local facilities are limited or unavailable.

Early Hum Dev. 2012 Dec;88(12):951-5.

3. **Cost-effectiveness of endoscopic sphenopalatine artery ligation versus nasal packing as first-line treatment for posterior epistaxis.**

Dedhia RC, Desai SS, Smith KJ, Lee S, Schaitkin BM, Snyderman CH, Wang EW.
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Abstract

BACKGROUND:

The advent of endoscopic sphenopalatine artery ligation (ESPAL) for the control of posterior epistaxis provides an effective, low-morbidity treatment option. In the current practice algorithm, ESPAL is pursued after failure of posterior packing. Given the morbidity and limited effectiveness of posterior packing, we sought to determine the cost-effectiveness of first-line ESPAL compared to the current practice model.

METHODS:

A standard decision analysis model was constructed comparing first-line ESPAL and current practice algorithms. A literature search was performed to determine event probabilities and published Medicare data largely provided cost parameters. The primary outcomes were cost of treatment and resolution of epistaxis. One-way sensitivity analysis was performed for key parameters.

RESULTS:

Costs for the first-line ESPAL arm and the current practice arm were $6450 and $8246, respectively. One-way sensitivity analyses were performed for key variables including duration of packing. The baseline difference of $1796 in favor of the first-line ESPAL arm

was increased to $6263 when the duration of nasal packing was increased from 3 to 5 days. Current practice was favored (cost savings of $437 per patient) if posterior packing duration was decreased from 3 to 2 days.

CONCLUSION:

This study demonstrates that ESPAL is cost-saving as first-line therapy for posterior epistaxis. Given the improved effectiveness and patient comfort of ESPAL compared to posterior packing, ESPAL should be offered as an initial treatment option for medically stable patients with posterior epistaxis.

Int Forum Allergy Rhinol. 2013 Jan 10

4. Management of intractable spontaneous epistaxis.

Rudmik L, Smith TL.
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Abstract

BACKGROUND:

Epistaxis is a common otolaryngology emergency and is often controlled with first-line interventions such as cautery, hemostatic agents, or anterior nasal packing. A subset of patients will continue to bleed and require more aggressive therapy.

METHODS:

Intractable spontaneous epistaxis was traditionally managed with posterior nasal packing and prolonged hospital admission. In an effort to reduce patient morbidity and shorten hospital stay, surgical and endovascular techniques have gained popularity. A literature review was conducted.

RESULTS:

Transnasal endoscopic sphenopalatine artery ligation and arterial embolization provide excellent control rates but the decision to choose one over the other can be challenging. The role of transnasal endoscopic anterior ethmoid artery ligation is unclear but may be considered in certain cases when bleeding localizes to the ethmoid region.

CONCLUSION:

This article will focus on the management of intractable spontaneous epistaxis and discuss the role of endoscopic arterial ligation and embolization as it pertains to this challenging clinical scenario.

Am J Rhinol Allergy. 2012 Jan-Feb;26(1):55-60

5. Intranasal contact points as a cause of facial pain or headache: A Systematic Review.

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Abstract

BACKGROUND:

There is a body of opinion in the clinical literature advocating the removal of intranasal contact points to treat facial pain.

OBJECTIVES:

To review the evidence that intranasal mucosal contact points cause facial pain or headache and their removal is therapeutic.

TYPE OF REVIEW:

Systematic review SEARCH STRATEGY: A systematic search of the available literature was performed using MEDLINE, EMBASE, Cochrane library and NHS Evidence from inception to September 2011. Terms used include facial pain and contact point (3628), rhinologic headache (6) contact point and surgery/endoscopy (38).

EVALUATION METHOD:

Inclusion criteria applied. Assessment of papers were undertaken by one reviewer and checked by the second. A narrative review of each study was performed and results recorded in tables.

RESULTS:

In one study 973 consecutive patients with a provisional diagnosis of rhinosinusitis were divided into groups with (42%) and without facial pain. There was a 4% prevalence of nasal contact in both groups, which was unrelated to the presence of facial pain. In another study of 100 patient's coronal paranasal sinus CT scans 29% had headache, and 55% had a contact point but their presence was inversely related to the presence of pain(1) . In a further study ten healthy volunteers had palpation, adrenaline, substance P and placebo applied to different areas throughout the nasal cavity and none of these stimuli caused facial pain. Nineteen studies were identified where nasal mucosal contact points had been removed surgically for the treatment of facial pain. They were small case series, not randomised and subject to selection bias, had no control group, a limited follow up and were open to observer bias with level IV evidence. Seven studies had a statistically significant improvement in pain postoperatively compared to pre operative questionnaire results but the majority had residual facial pain.

CONCLUSION:

The majority of people with contact points experience no facial pain. The presence of a contact point is not a good predictor of facial pain. The removal of a contact point rarely results in the total elimination of facial pain making the theory that a contact point is responsible unlikely. The improvement in post operative symptoms following the removal of contact points in some patients may be explained by cognitive dissonance or neuroplasticity. A randomized, controlled and blinded trial with a followed up period of over 12 months is needed to assess the place of surgery in the removal of a contact point for the treatment of facial pain.

Clin Otolaryngol. 2013 Jan 12.

6. **Endoscopic dilatation sinus surgery (FEDS) versus functional endoscopic sinus surgery (FESS) for treatment of chronic rhinosinusitis: a pilot study.**

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Abstract

The objective of the present study was to compare the efficacy of functional endoscopic dilatation sinus surgery (FEDS) with functional endoscopic sinus surgery (FESS) in treatment of chronic rhinosinusitis in patients who failed medical therapy. We enrolled 24 patients suffering with chronic rhinosinusitis, who failed medical treatment and were proceeding to surgery, in a prospective, randomized controlled pilot study carried out between January and December 2008 following ethical committee approval. All patients completed sino-nasal outcome test (SNOT)-20 questionnaires and underwent saccharine test preoperatively and 24 weeks post operatively. Only trained surgeons performed surgery. The SNOT-20 questionnaire and saccharine clearance time (SCT) were used to measure outcomes. The SNOT-20 scores for both patient groups showed similar, consistent symptomatic improvement compared with baseline measures. SCT was reduced in both groups. No significant post-operative complications were recorded in either group. No patient in the FEDS group had any bleeding, and all were ready for discharge within hours of the procedure. Thus, FEDS is as effective as FESS in treatment of chronic rhinosinusitis. It is can be considered an additional tool in endoscopic surgery and has the potential to be undertaken as a day procedure.

Acta Otorhinolaryngol Ital. 2012 Oct;32(5):314-319

7. **Application of computer assisted navigation system in endoscopic sinus and skull base surgey].**

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Abstract

OBJECTIVE:

To evaluate the applicative value of computer assisted navigation system in endoscopic sinus and skull base surgery.

METHOD:

Forty-nine endoscopic surgery procedures were performed with the help of computer assisted navigation system, among which there were 25 cases of recurrent sinusitis and nasal polyps, 9 cases of nasal and sinus tumour, 7 cases of cerebrospinal fluid rhinorrhea, 2 cases of meningoencephalocele, 4 cases of congenital choanal atresia, 1 case of pituitary tumor and 1 case of foreign body in middle cranial fossa.

RESULT:

The preoperative time was 5-13 minutes for preparation, 7 minutes in average. The target error was less than or equal to 1.5 mm. All the 49 cases had successful surgery without complications.

CONCLUSION:

Computer assisted navigation system can help the surgeon to determine the sinus, skull base and adjacent anatomic landmarks correctly, improve surgical accuracy and safety, and reduce intraoperative and postoperative complications.

Lin Chung Er Bi Yan Hou Tou Jing Wai Ke Za Zhi. 2012 Sep;26(17):796-8

8. Paranasal sinus osteomas.

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Abstract

Osteoma is the most common benign tumor of the paranasal sinuses. They remain asymptomatic until the tumor reaches a certain size. Although the etiology of the osteomas is controversial, embryologic, traumatic, and infective theories have been proposed. Osteomas may be discovered at any age but are usually found during the fourth and fifth decades, and there is a male preponderance. In this retrospective study, we analyzed 25 patients with paranasal sinus osteomas who were treated surgically between 2005 and 2011. Age and sex of the patient, size and location of the tumor, clinical presentation, type of surgical approach, duration of follow-up, outcome, and any intraoperative or postoperative complications were obtained from the medical records of the patients. Diagnosis of osteoma was based on computed tomography findings and confirmed histopathologically in all cases. There were 9 men (36%) and 16 women (64%) with a mean age of 38.7 years. Tumor localization was divided as follows: ethmoid sinus in 14 patients (56%), frontal sinus in 9 patients (36%), and maxillary sinus in 2 patients (8%). Mean tumor size was 2.04 cm, ranging from 0.5 to 6.5 cm. External approach was used in 9 cases and endonasal endoscopic surgery was performed in 19 cases. Combination of endoscopic surgery and external surgery was performed in 3 cases. After at least 6 months of follow-up, all patients were symptom-free except 2 patients who underwent revision surgery. These 2 patients were also asymptomatic following revision surgery. Although there is an increasing trend to endoscopic surgery, external approach is recommended in large frontal osteomas and ethmoid osteomas with lateral extension and in case of intracranial or intraorbital involvement.

J Craniofac Surg. 2012 Sep;23(5):e433-7

9. Therapy options and long-term results of sinonasal malignancies.

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Abstract

OBJECTIVES:

Nasal and paranasal sinus malignancies are rare. The most common lesions are located in the nasal cavity and the maxillary sinus, although they also occur in the ethmoid, sphenoid and frontal sinuses. Treatment often combines surgery, radiotherapy and chemotherapy. Endoscopic surgical approaches are increasingly used in order to reduce the morbidity associated with standard open resection. The aim of our study was to analyse the long-term treatment results of sinonasal malignancies (SNM), with a special focus on surgical approaches.

MATERIALS AND METHODS:

A retrospective review of 123 patients treated in a tertiary referral centre from 1992 to 2008 was conducted, which included information on tumour stage, histology, treatment and follow-up.

RESULTS:

A variety of histological types were found with squamous cell carcinoma being the most frequent (n=38), followed by melanoma (n=24) and adenocarcinoma (n=21). Open surgery was performed in 55 patients, and endoscopic resection was performed in 28 patients. Nineteen patients were treated with primary radiation therapy (RTX), four underwent primary chemotherapy (CTX), and 15 had primary chemoradiation (RCTX). Two patients died prior to therapy onset. A comparison of survival rates did not show a significant difference between the treatment groups. Patients that underwent endoscopic resection had significantly fewer postoperative complications.

CONCLUSION:

In carefully selected patients, endoscopic surgery of SNM showed a similar outcome as

Oral Oncol. 2012 Oct;48(10):1031-7.

10. Olfactory changes after endoscopic sinus surgery in patients with chronic rhinosinusitis.

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Abstract

OBJECTIVE:

To address the controversy over whether olfactory function is improved or not after endoscopic sinus surgery (ESS) in patients with eosinophilic (ECRS) and non-eosinophilic chronic rhinosinusitis (non-ECRS).

METHODS:

Between June 2006 and March 2012, 89 adult patients with CRS underwent ESS at Hyogo College of Medicine. There were 55 men and 34 women with a mean age of 53 years old, ranging from 23 to 79 years. The average follow-up period was 10.7 months (3-24) after ESS. Peripheral blood examination, sinonasal CT imaging, and four kinds of olfaction tests [self-administered olfaction test (SAOQ), visual analog scale (VAS), T&T recognition threshold tests (T&T) and intravenous olfaction test using prosultiamine] were performed. We diagnosed ECRS when (i) symptoms of nasal congestion and olfactory disorder, (ii) bilateral chronic rhinosinusitis with nasal polyps (CRSwNPs), (iii) peripheral blood eosinophilia (>7.0%), and (iv) ethmoid sinus dominant opacification in preoperative CT findings (i.e. ethmoid sinuses (E) were more bilaterally occupied than those of maxillary sinuses (M), E/M≥1), were completely fulfilled. We divided the patients into two groups of ECRS (group A) and non-ECRS (group B). Olfaction tests before operation, and at the 3rd, 6th, 12th, and 24th month postoperation were analyzed. The severity and therapeutic evaluation of olfaction were based on criteria of T&T recognition thresholds.

RESULTS:

The mean SAOQ and VAS scores showed significant improvement within 6 months after ESS in both group A and group B. In total, the improvement rates were 52.0% (26/50) at 3 months, 58.5% (24/41) at 6 months, 40.5% (15/37) at 12 months, and 41.2% (7/17) at 12 months. The significant improvement of T&T recognition thresholds in group B was maintained for 24 months, whereas those in group A, showing transient improvement, deteriorated after 12 months or more. A significant difference in postoperative T&T recognition between groups A and B was found at the 12th postoperative month. In both A and B, 84% of patients had a response to prosultiamine (positive group) in the preoperative stage. T&T thresholds in the positive group were significantly better that those in the negative groups in the postoperative stage.

CONCLUSION:

Olfactory disorders due to ECRS showed transient improvement that deteriorated as time passed after surgery. The olfaction in the non-ECRS patients recovered comparatively well. Postoperative olfactory results were unfavorable in patients without a preoperative reaction to prosultiamine.

Auris Nasus Larynx. 2013 Jan 10