



Reader Digest

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

1. Transnasal endoscopic treatment of bilateral choanal atresia in newborns using balloon dilatation: own results and review of literature.

Riepl R, Scheithauer M, Hoffmann TK, Rotter N.

Abstract

OBJECTIVES:

Congenital choanal atresia is a complete obliteration of the posterior nasal aperture leading to life-threatening airway emergencies. Several surgical options including sublabial, transpalatal, transseptal or external approaches have been developed for the repair of choanal atresia. So far, no gold standard has been established, but transnasal endoscopic approaches have been favored by many surgeons in recent years.

METHODS:

Since 2008 a standard procedure for bilateral choanal atresia repair in neonates using an endoscopic transnasal approach supported by balloon dilatation has been established at the Department of Otorhinolaryngology at Ulm University Medical Center. During the last five years, six cases of bilateral choanal atresia were diagnosed and treated, including two male and four female patients aged between three days and two months, at the date of surgery. All interventions were performed in transnasal endoscopic technique. In all patients the abnormally thick posterior vomer and the atretic bony plate were resected and the mucosa was perforated. A balloon dilator was used to dilate the neochoanae and prevent restenosis. All six patients were intraoperatively stented for at least six weeks.

RESULTS:

All six neonates with bilateral choanal atresia, who were operated in endoscopic transnasal technique, had patent neo-choanae on both sides. No severe postoperative complications were found. The number of revisions depends on the age at primary surgery.

CONCLUSIONS:

Endonasal endoscopic approach and balloon dilatation is a safe, reproducible technique for surgical repair of choanal atresia. We recommend the use of bilateral stents, especially in very young patients, as a prerequisite to prevent early restenosis

Int J Pediatr Otorhinolaryngol. 2014 Mar; 78(3):459-64



2. Pathophysiology of empty nose syndrome.

Sozansky J1, Houser SM.

Author information

1Northeast Ohio Medical University, Rootstown, Ohio.

Abstract

OBJECTIVES/HYPOTHESIS:

To review current knowledge on nasal airflow sensation in relation to empty nose syndrome (ENS).

STUDY DESIGN:

PubMed searches.

METHODS:

Current literature pertaining to measurement of nasal patency, mechanism of sensory perception of nasal airflow, and ENS.

RESULTS:

A reliance on pure anatomical analysis of the anatomy in ENS falls short of explaining the disorder. Our understanding of subjective nasal sensation has advanced, as has our understanding of the flow of air through the nose. Neural healing following a surgical insult may not result in a return to a normal physiologic state. Aberrations in neurosensory systems from improper healing may play a major role in the abnormal sensations ENS patients experience.

CONCLUSIONS:

An evidence-based hypothesis for the development and symptoms of ENS is offered LEVEL OF EVIDENCE:
NA Laryngoscope, 2014

Laryngoscope. 2014 Jun 30.



3. Examination versus subjective nasal obstruction in the evaluation of the nasal septal deviation.

Salihoglu M, Cekin E, Altundag A, Cesmeci E.

Abstract

BACKGROUND:

Nasal septal deviation (NSD) is a frequent complaint among patients in an otolaryngology clinic. The prevalence of NSD varies in different populations and NSD classification schemes are complex.

METHODS:

We aimed to determine the prevalence of NSD in a population of Turkish young males using a new NSD classification method that we developed. We compared the results with patients' complaints. All patients underwent two nasal examinations, which were performed using a nasal speculum with and without administration of vasoconstrictor agents. Inferior Concha Hypertrophy (ICH) was evaluated in the first examination and NSDs were scored during the second examination. All findings were recorded according to our classification scheme. Severity of nasal obstruction was subjectively evaluated by using a visual analogue scale (VAS).

RESULTS:

We found a significant association between prevalence of NSD and nasal injuries, but there was no association between the mode of delivery and prevalence of NSD. Surprisingly, about 30 % of the participants with NSD had no complaint of nasal obstruction. Although most of the participants in the study had no severe nasal obstruction complaint, we found an association between NSD presence and patient's VAS.

CONCLUSION:

NSD is very frequent in the Turkish population and most often related to trauma; however, its effect on patient quality of life varies.

Rhinology. 2014 Jun; 52(2):122-6

4. Mechanical disfunction in the mucosal oedema formation of patients with nasal polyyps.

Pezato R, Voegels RL, Pinto Bezerra TF, Perez-Novo C, Stamm AC, Gregorio LC.



Abstract

BACKGROUND:

Nasal polyposis (NP) is characterized by an anomalous tissue growth with oedema and a lack of extracellular matrix. In this study, we investigated whether a mechanical disfunction of the forces that act in oedema formation is present in NP.

METHODS:

We compared the interstitial hydrostatic pressure behaviour during a saline solution infusion between healthy nasal mucosa (inferior and middle turbinate from 10 patients) and inflamed nasal mucosa from NP patients (inferior, middle turbinate and a nasal polyp from 6 patients). We used Controlled Disc Stimulation equipment to compare the curve Pressure/Volume created during the saline solution infusion.

RESULTS:

The pressure at 0.2 ml infusion was lower in the middle turbinate of NP patients than in the middle turbinate of control patients. The lowest P/V mean assessed was in the polypoid tissue.

CONCLUSIONS:

The interstitial hydrostatic pressure showed different behavior during liquid infusion in nasal mucosa from NP patients when compared with healthy nasal mucosa. This study allows us to cogitate on a new pathophysiological mechanism contributing to the development of the NP

Rhinology. 2014 Jun; 52(2):162-6

5. An update on management of pediatric epistaxis.

Patel N, Maddalozzo J, Billings KR.

Abstract

OBJECTIVE:

To evaluate the work-up and treatment of pediatric epistaxis in an outpatient clinical setting, with a focus on the diagnostic utility and associated costs of nasal endoscopy and adjunctive laboratory data.

STUDY DESIGN:

Retrospective, case series.

METHODS:

Children under 18 years of age seen in an outpatient clinical setting at a tertiary care hospital between 2004 and 2012 for the primary diagnosis of epistaxis were identified. Patient characteristics were analyzed from a statistical and cost perspective.

RESULTS:

A total of 175 patients with epistaxis were included. One hundred twenty-two (69.7%) were male, with a mean overall age of 9.1 years (range 5 months to 17.9 years). The duration of bleeding ranged from 0.25 to 84 months (mean 11.5 months). Nasal endoscopy was performed in 123 (70.2%) patients. Three (2.4%) had nasal polyps, and 1 (0.8%) a juvenile nasopharyngeal angiofibroma. The average age of patients with nasal masses was significantly older (16.2 years versus 10.4 years, $p=0.008$). Of 131 patients with available blood work, laboratory values demonstrated anemia in 27 (20.6%) patients, elevated partial thromboplastin time in 5 (3.8%),



and an abnormal platelet function analysis in 1 (0.8%) patient. Those with anemia were statistically younger ($p=0.001$), than those with either normal labs or abnormal coagulation studies. Epistaxis resolved in 88/135 (65.2%) who had follow-up visits.

CONCLUSION:

The majority of pediatric epistaxis cases resolved with nasal mucosa hydration. Nasal endoscopy can be reserved for teenaged patients with epistaxis, and routine laboratory screening may be useful in select cases based on the clinical judgment.

Int J Pediatr Otorhinolaryngol. 2014 Aug; 78(8):1400-4

6. Epistaxis management: is medical intervention required for inactive epistaxis?

Ecevit MC, Erdağ TK, Uçar S, Demirydoğan NS, İkiz AO, Karcıoğlu O, Sütay S.

Abstract

OBJECTIVES:

This study aims to discuss the management and the follow-up approach in patients with epistaxis.

PATIENTS AND METHODS:

A total of 367 patients with epistaxis (209 males, 158 females; mean age 52.6 ± 18.3 years; range 18 to 85 years) admitted to the Adult Emergency Department of a university hospital between January 2000 and December 2004 were retrospectively analyzed.

RESULTS:

Of patients, 56.7% had an idiopathic bleeding. A significantly higher number of patients aged >50 years had high blood pressure on admission. Of 141 patients (38.49%) presenting without bleeding on admission, 20 required medical intervention for recurrent epistaxis. Conservative approaches were effective in stopping bleeding in 97.8% patients. The hospitalization ratio was 5.7%.

CONCLUSION:

Our study result shows that endonasal endoscopic mucosal cauterization is an effective method for resistant-to-treatment cases and inactive bleeding on admission is not a restraint for further examination.

Kulak Burun Bogaz Ihtis Derg. 2014 Jul-Aug; 24(4):211-6

7. Orbital complications in children: differential diagnosis of a challenging disease.

Welkoborsky HJ1, Graß S, Deichmüller C, Bertram O, Hinni ML.



Author information

¹Department of Otorhinolaryngology, Head and Neck Surgery, Nordstadt Clinic, Academic Hospital and Childrens' Hospital "Auf Der Bult", Academic Hospital, Haltenhoffstrasse 41, 30167, Hannover, Germany, welkohno.hanno@t-online.de.

Abstract

Orbital swelling in children presents diagnostic and therapeutic challenges. Most are associated with acute sinusitis with complicating factors possibly including: amaurosis, meningitis, intracranial abscess or even cavernous sinus thrombosis. However not all acute orbital swelling is associated with acute sinusitis. A careful evaluation is critical prior to initiating therapy. Clinical records of 49 children (27 girls, 22 boys, with an average age of 11.8 years) were retrospectively reviewed. Historical data evaluated included all available information from parents and previous treating physicians. All patients underwent intensive pediatric, ophthalmologic, and otorhinolaryngologic examinations. Computed tomography (CT scans) were additionally performed in 40 % of children. The results of any examinations were also evaluated. Eighteen of the 49 patients had an orbital complication due to acute sinusitis. All 18 had elevated body temperature, C-Reactive Protein (CRP) values and white blood cell counts. Endoscopy of the nose revealed pus in the middle meatus in each case. According to Chandlers' classification, ten children presented with a preseptal, and eight children had a postseptal orbital cellulitis. All patients were admitted to the hospital and treated with intravenous antibiotics. CT scans further demonstrated signs of subperiosteal abscess in four children. Functional endoscopic sinus surgery (FESS) was required in six children, including all patients with subperiosteal abscess. Twenty children experienced orbital swelling unrelated to acute sinusitis, i.e. atheroma, inflamed insect stings, dental related abscess, conjunctivitis, and Herpes simplex associated superinfection. In three children, acute orbital swelling was caused by an orbital tumor. Orbital complications of an acute sinusitis occur often in the pediatric patient group, and most of these patients can be treated conservative with intravenous antibiotics. Indications for FESS include failure to improve or worsening of clinical symptoms during 24 h of therapy, signs for subperiosteal abscess in CT scan, and/or vision loss. Patients with infectious orbital complications had fever, elevated CRP and white blood cell counts. This symptom complex is key in making the correct diagnosis. Interestingly, 61 % of patients in this study demonstrated non-sinusitis related diseases leading to acute orbital swelling, which also required prompt recognition and appropriate therapy.

Eur Arch Otorhinolaryngol. 2014 Jul 24

8. Insulating and cooling effects of nasal endoscope sheaths and irrigation.

Craig J1, Goyal P.

Author information

¹Department of Otolaryngology, State University of New York (SUNY) Upstate Medical University, Syracuse, NY.



Abstract

BACKGROUND:

Heat generated at the tips of nasal endoscopes have been shown to reach temperatures high enough to cause thermal tissue injury. Endoscope sheaths have the potential to minimize the risk of thermal tissue injury. The purpose of this study was to assess the abilities of plastic and metal endoscope sheaths and sheath irrigation to insulate against dangerous scope tip temperatures.

METHODS:

A 4-mm 0-degree rigid nasal endoscope was used with light-emitting diode (LED) and xenon light sources (400-W LED, 300-W, and 175-W xenon) to assess scope tip temperature before and after endoscope sheath placement. Temperatures were assessed again after placement of each sheath, both before and after active saline irrigation. Scope tip temperature was measured using a noncontact infrared thermometer.

RESULTS:

The unsheathed rigid scope tip reached a maximal temperature after 10 minutes at 100% light source intensity. The 400-W LED and 300-W xenon sources generated potentially dangerous scope tip temperatures exceeding 42°C, whereas the 175-W xenon source never generated a maximal temperature over 32.6°C. After placement of plastic and metal sheaths, mean scope tip temperatures were decreased by 2°C (4.8%) and 2.2°C (5.5%), respectively. After active saline irrigation, mean scope tip temperatures were decreased by 5.1°C (12.6%) and 5.2°C (12.8%), respectively.

CONCLUSION:

With modern light sources, nasal endoscopes have the potential to reach temperatures that may cause thermal tissue injury. Endoscope sheaths lead to decreases in scope temperatures, and the effect is greater with active irrigation. In addition to improving visualization, endoscope sheaths may decrease the risk of thermal tissue injury

Int Forum Allergy Rhinol. 2014 Jul 7

9. Nose-to-Brain Drug Delivery by Nanoparticles in the Treatment of Neurological Disorders.

Ong WY1, Maran SS, Costantino L.

Author information

1Department of Anatomy, National University of Singapore, Singapore 117597. wei_yi_ong@nuhs.edu.sg.

Abstract

Many potential drugs for the treatment of neurological diseases are unable to reach the brain in sufficient enough concentrations to be therapeutic because of the blood brain barrier. On the other hand, direct delivery of drugs to the brain provides the possibility of a greater therapeutic-toxic ratio than with systemic drug delivery. The use of intranasal delivery of therapeutic agents to the brain provides a means of bypassing the blood brain barrier in a non-invasive manner. With this respect, nanosized drug carriers were shown to enhance the delivery of drugs to CNS compared to equivalent drug solutions formulations. Neurological conditions that have been studied in animal models that could benefit from nose-to-brain delivery of nanotherapeutics include pain,



epilepsy, neurodegenerative disease, and infectious diseases. The delivery of drugs to the brain via nose-to-brain route holds great promise, on the basis of preclinical research by means of drug delivery systems such as polymeric nanoparticles (Np) and clinical data related to intranasal delivery to CNS of large molecular weight biologics administered in solution, but safety issues about toxicity on nasal mucosa, Np transport into the brain, delivery only to specific brain area and variability in the adsorbed dose still represent research topics that need to be considered with a view of clinical translation of these delivery systems

Curr Med Chem. 2014 Jul 15.

10. Evidence for camel-to-human transmission of MERS coronavirus.

Azhar EI1, El-Kafrawy SA, Farraj SA, Hassan AM, Al-Saeed MS, Hashem AM, Madani TA.

Author information

1From the Department of Medical Laboratory Technology, Faculty of Applied Medical Sciences (E.I.A.), Special Infectious Agents Unit, King Fahd Medical Research Center (E.I.A., S.A.E., S.A.F., A.M. Hassan, M.S.A., A.M. Hashem), and the Departments of Medical Microbiology and Parasitology (A.M. Hashem) and Medicine (T.A.M.), Faculty of Medicine, King Abdulaziz University, Jeddah, Saudi Arabia.

Abstract

We describe the isolation and sequencing of Middle East respiratory syndrome coronavirus (MERS-CoV) obtained from a dromedary camel and from a patient who died of laboratory-confirmed MERS-CoV infection after close contact with camels that had rhinorrhea. Nasal swabs collected from the patient and from one of his nine camels were positive for MERS-CoV RNA. In addition, MERS-CoV was isolated from the patient and the camel. The full genome sequences of the two isolates were identical. Serologic data indicated that MERS-CoV was circulating in the camels but not in the patient before the human infection occurred. These data suggest that this fatal case of human MERS-CoV infection was transmitted through close contact with an infected camel

N Engl J Med. 2014 Jun 26; 370(26):2499-505.