The Journal of Laryngology & Otology (2006), ***120***, *803–804*.

doi:10.1017/S0022215106009960
Printed in the United Kingdom

Abstract Selection

The completely opacified frontal or sphenoid sinus: a marker of more severe disease in chronic rhinosinusitis?
Bhattacharyya Neil.
Division of Otolaryngology, Brigham and Women's Hospital, and the Department of Otology and Laryngology, Harvard Medical School, Boston, Massachusetts 02115, USA. neiloy@massmed.org.
The Laryngoscope (2005) Dec, Vol. 115, pp. 2123–6, ISSN: 0023-852X.

Objective Determine whether complete opacification of the sphenoid or frontal sinus is associated with increased clinical severity of chronic rhinosinusitis (CRS).

Methods Adult patients undergoing evaluation for CRS prospectively completed the rhinosinusitis symptom inventory (RSI) and underwent computed tomography of the paranasal sinuses. A cohort with at least one completely opacified frontal sinus was identified. To each patient in this opacified cohort, a control patient without complete frontal sinus opacification was matched with corresponding Lund score. Symptom scores for headache, facial pressure, RSI symptom domains, and medical resource consumption were statistically compared. Similar analysis was conducted for patients with complete sphenoid sinus opacification.

Results Fifty-four patients with at least one completely opacified frontal sinus were matched for Lund score to the control group (mean Lund score 17.1). There was no statistically significant difference in headache (2.1 vs. 2.8) or pressure scores (2.0 vs. 2.3) or in the RSI symptom domains between those patients with completely opacified frontal sinuses and controls, respectively. Although completely opacified patients received more antibiotic treatment and missed more workdays, only the increased numbers of physicians visits (4.0 vs. 2.1, $p = 0.02$) was significant, Thirty-four of 35 completely opacified sphenoid patients were matched to control patients (mean Lund score 16.7). Again, differences in symptom scores for headache (2.5 vs. 2.5), facial pressure (2.3 vs. 2.3), and RSI symptom domains were not statistically significant. Increased use of antibiotics (9.6 vs. 3.9, $p = 0.036$) and physician visits (5.8 vs. 1.8, $p = 0.024$) for sphenoid opacification patients was statistically significant.

Conclusions Patients with a completely opacified sphenoid or frontal sinus do not necessarily manifest more severe clinical symptoms of CRS. Thus, a higher radiographic stage should not be automatically assigned to patients with a completely opacified sphenoid of frontal sinus in CRS.

Abnormalities of axon growth in human olfactory mucosa
Holbrook Eric H, Leopold Donald A, Schwob James E.
Department of Otolaryngology, MA Eye and Ear Infirmary, and Department of Otology and Laryngology, Harvard Medical School, Boston, Massachusetts 02114, USA. eric_holbrook@meei.harard.edu.
The Laryngoscope (2005) Dec, Vol. 115, pp. 2144–54, ISSN: 0023-852X.

Objectives/Hypothesis Random biopsies of the human adult olfactory mucosa often demonstrate degenerative changes in the olfactory epithelium (OE) in both dysosmic and normosmic patients and, consequently, have limited diagnostic usefulness. However, detailed analysis of the subepithelial tissue with specific attention to the fascicles of the olfactory nerve and abnormalities of axonal growth may improve the correlation of histopathology with sensory function.

Study design Retrospective review of human OE biopsies.

Methods Mucosal biopsies from the olfactory area obtained from 27 subjects were examined by light and electron microscopy, with particular attention to the olfactory nerve fascicles; results were correlated with clinical status. lmmunohistochemical analysis was used to characterize the extent of axonal depletion, relative maturity of the parent population, and aberrant axonal growth.

Results As expected, there are areas of respiratory metaplasia and neuronal depletion in normosmic as well as dysosmic patients. The degree of axon degeneration within the fascicles correlates better with individual olfactory status. Immature neurons predominate, and re-entrant neuromas develop in patients with olfactory loss caused by disconnection from the olfactory bulb. Individuals with olfactory loss caused by epithelial damage as with chronic rhinosinusitis display evidence of nerve fascicle degeneration and intraepithelial neuromas.

Conclusion The status of olfactory axons provides useful information on the overall condition of the olfactory periphery and improves the diagnostic usefulness of mucosal biopsies. In addition to an assessment of the epithelium per se, the fascicles of the olfactory nerve need to be characterized for a complete analysis of the olfactory mucosa.

Grant ID: PO1 DC000220, Acronym: DC, Agency: NlDCD
Grant ID-RO1 DC000467, Acronym: DC, Agency: NIDCD.

Nonsurgical home treatment of middle ear effusion and associated hearing loss in children. Part I: clinical trial
Arick Daniel S, Silman Shlomo.
Department of Otolaryngology-Head and Neck Surgery, New York Eye & Ear Infirmary, New York City, USA.
Ear nose & throat journal (2005) Sep, Vol. 84, pp. 567–8, 570–4, 576 passim, ISSN: 0145-5613.

We conducted a randomized, controlled clinical trial to investigate the efficacy of treatment of persistent middle ear effusion (MEE) and associated hearing loss with a modified Politzer device used in the home setting over a 7-week period. Efficacy was determined by comparing pre-and posttherapy air-conduction thresholds, tympanometric peak pressures, and otoscopic findings. The study group was made up of 94 children (174 ears), aged 4 to 11 years, who had at least a 2-month history of MEE and associated hearing loss. At study's end, patients in the treatment group experienced statistically significant improvements in all measured outcomes; no significant improvements were seen in the control group in all measured outcomes. At study's end, the hearing sensitivity of 73.9% of the treated ears was within normal limits, compared with only 26.7% of the control ears. These findings demonstrate that home treatment of children with persistent MEE and associated hearing loss with the modified Politzer device is highly efficacious.

Grant ID: 5R44DC003613-03. Acronym: DC, Agency: NI DCD.

Vertigo and motion sickness. Part I: vestibular anatomy and physiology
Zajonc Timothy P, Roland Peter S.
ENT Associates, Johnson City, TN, USA.
Ear nose & throat journal (2005) Sep, Vol. 84, pp. 581–4, 37 refs, ISSN: 0145-5613.

Control of the symptoms of vertigo and motion sickness requires consideration of the neurophysiology of areas both intrinsic and extrinsic to the vestibular system proper. We review the essential anatomy and physiology of the vestibular system and the associated vomiting reflex.

Unilateral exophthalmos associated with ipsilateral mucosal turbinate hypertrophy: benign exophthalmos syndrome (BES). A description of a new clinical condition
Bonavolonta G, Iuliano A, Bonavolonta P, Strianese D.
Orbital Unit, Department of Ophthalmology, University of Napoli Federico II, Napoli, Italy. bonavolo@unina.it.

European journal of ophthalmology (2005) Nov-Dec, Vol. 15, pp. 800–3, ISSN: 1120-6721.

Purpose To report the clinical and radiologic characteristics of a group of patients who experienced unilateral exophthalmos associated with ipsilateral mucosal turbinate hypertrophy. The clinical features of these patients are presented and a hypothesis proposed to explain this condition for which the authors introduce the term benign exophthalmos syndrome (BES).

Methods Retrospective, noncomparative case series.

Participants Four patients experienced slow progressive unilateral exophthalmos associated with ipsilateral mucosal turbinate hypertrophy, with no evidence of orbital mass or extraocular muscles involvement.

Intervention Main Outcome Measures. Symptomatic outcome and measurement of the degree of relative exophthalmos.

Results The onset of exophthalmos was associated with clinical and radiologic features that resemble BES. In all patients, radiologic examination demonstrated an ipsilateral mucosal turbinate hypertrophy and not the presence of orbital disease or expanding lesions of paranasal sinus. After daily intranasal spray of steroid, in three of the four cases the globe returned to within 1 mm of exophthalmometry of the contralateral eye.

Conclusions The relationship between the feature of paranasal sinus disease and the development of ipsilateral exophthalmos has been described in the literature. The four cases described herein appear peculiar for the slow progressive onset of the exophthalmos, without inflammatory and mass effect signs. This condition associated in all cases with ipsilateral hypertrophy of the nasal mucosa provides a guide to a hypothetical mechanism for BES. According to these hypothesis, the therapy should be devoted to the nasal disease more than the orbital.

Temporomandibular joint destruction in mucolipidosis type III necessitating gastrostomy insertion

Zolkipli Zarzuela, Noimark Lee, Cleary Maureen A, Owens Cathy, Vellodi Ashok.
Metabolic Unit, Great Ormond Street Hospital, London, UK.
European journal of pediatrics (2005) Dec (epub: 22 Jul 2005), Vol. 164, pp. 772–4, ISSN: 0340-6199.

Mucolipidosis III is a genetically heterogeneous lysosomal disorder characterised by progressive symptoms and signs, the commonest being skeletal pain due to bony destruction. We describe a patient who developed severe destruction of the temporomandibular joints leading to difficulties with speech and feeding, necessitating gastrostomy insertion.

Conclusion Temporomandibular joint involvement has not been previously reported in mucolipidosis III.

Duplication of internal carotid artery: a rare case of tympanic mass

Aladwan Abdelhamid, Mack Martin, Gstoettner Wolfgang, Vogl Thomas J.
Department of Diagnostic and Interventional Radiology, University of Frankfurt/Main. Frankfurt/Main, Germany.
European radiology (2005) Dec (epub: 18 Mar 2005), Vol. 15, pp. 2525–7, ISSN: 0938-7994.

We report a case of a 30-year-old female patient evaluated for a right retrotympanic polyp found at otoscopy. During biopsy, a severe hemorrhage occurred. During computed tomography and angiography, the diagnosis of a duplication of internal carotid artery was made.

Influence of sleep stages on esophago-upper esophageal sphincter contractile reflex and secondary esophageal peristalsis

Bajaj Jasmohan S, Bajaj Shailesh, Dua-Kulwinder S, Jaradeh Safwan, Rittmann Tanya, Hofmann Candy, Shaker Reza.
Division of Gastroenterology and Hepatology, Medical College of Wisconsin, Milwaukee, Wisconsin 53226, USA.
Gastroenterology (2006) Jan Vol. 130, pp. 17–25, ISSN: 0016-5085.

Background & aims Airways are most vulnerable to aspiration during sleep. Esophago-upper esophageal sphincter (UES) contractile reflex (EUCR) and secondary peristalsis (2P) have been proposed to protect the airway by reflexively contracting the UES and clearing the esophagus of refluxate, respectively. Our aim was to study EUCR and 2P elicitation in awake state, stage II, slow-wave (stage III/IV), and rapid eye movement (REM) sleep.

Methods Thirteen healthy volunteers were studied in the supine position using concurrent UES and esophageal manometry and polysomnography. Threshold volume (Tvol) to trigger EUCR and 2P and changes in sleep stages were recorded during injection of 2.7 mL/min water into the proximal esophagus after sleep stages were confirmed.

Results UES pressure progressively declined with deeper stages of sleep. Tvol for EUCR and 2P elicitation was not significantly different between the stage II and awake state (EUCR: $4.0 +/- 1.8$ mL vs $6.1 +/- 3.6$ mL stage II; 2P: $5.8 +/- 2.2$ mL vs $8.0 +/- 4.0$ mL stage II). Tvol for EUCR and 2P elicitation during REM sleep were significantly lower than during the stage II and awake state (REM EUCR: $2.2 +/- 1.1$ mL; 2P: $3.5 +/- 1.2$ mL). Arousal and cough preempted development of EUCR and 2P during slow-wave sleep.

Conclusions: (1) EUCR2P can be elicited in stage II and REM but is preempted by arousal in slow-wave sleep. (2) Tvol for EUCR2P elicitation is significantly lower in REM, compared with the stage II and awake state, suggesting a heightened sensitivity of these reflexes during REM sleep. (3) Although UES pressure progressively declines with deeper stages of sleep, it can still reflexively contract during REM sleep, despite generalized hypotonia.
Grant ID: R01DK25731, Acronym. DK, Agency. NIDDK.

Cortical responses to promontorial stimulation in postlingual deafness

Mortensen Malene Vejby, Madsen Stig, Gjedde Albert.
PET Center, Aarhus University Hospitals, Denmark. malene@pet.auh.dk.
Hearing research (2005) Nov (epub: 11 Aug 2005), Vol. 209, pp. 32–41, ISSN: 0378-5955.

Electrical stimulation with a transtympanic electrode on the promontory of the middle ear allows the tasks of gap detection and temporal difference limen (TDL) to be carried out by both normally hearing and deaf subjects. Previous neuroimaging of normally hearing subjects revealed a region in the right posterior temporal lobe that is crucial to duration discrimination. The present study tested the hypothesis that postlingually deaf subjects recruit this area when they make subtle temporal discriminations. Fourteen postlingually deaf adult cochlear implant candidates were stimulated in the ear chosen for implantation. Altered cerebral activity was recorded with positron emission tomography as incremental 15-O-labelled water uptake. On stimulation with tone bursts, we found bilateral activity close to the primary auditory cortex in all subjects. However, subjects performing well on the TDL task demonstrated right-lateralized fronto-temporal and left-lateralized temporal activity in the respective TDL and gap-detection tasks, while subjects who failed to detect duration differences of less than 200 ms in the TDL discrimination task only had frontal and occipital rather than temporal lobe activation. We conclude that the ability to involve the right posterior temporal region is important to duration discrimination. This ability can be evaluated pre-operatively.