

## Abstract Selection

**Head and neck cancer: clinical usefulness and accuracy of PET/CT image fusion.** Schoeder, H., Yeung, H.W.D., Gonen, M., Kraus, D., Larson, S. M. Department of Radiology, Nuclear Medicine Service, Memorial Sloan-Kettering Cancer Center, Box 77, 1275 York Ave, New York, NY 10021, USA. schoederh@mskcc.org. *Radiology* (2004) Apr, (epub: 2004 Feb 27), Vol. 231 (1), pp. 65–72, ISSN 0033-8419.

**PURPOSE:** To compare diagnostic accuracy of attenuation-corrected positron emission tomography (PET) with fused PET and computed tomography (CT) in patients with head and neck cancer and to evaluate the effect of PET/CT findings on patient care. **MATERIALS AND METHODS:** Studies of 68 patients were reviewed by two physicians in consensus. Focal fluorodeoxyglucose (FDG) uptake in the head and neck on attenuation-corrected PET images was graded as benign, equivocal, or malignant. CT and PET/CT images were then reviewed, and initial findings were amended if necessary. Comparison was performed on a lesion-by-lesion basis. Accuracy was evaluated on the basis of follow-up and histopathologic findings. Potential effects on patient care were assessed by a head and neck surgeon. PET and PET/CT accuracy was compared with a McNemar test adjusted for clustering. **RESULTS:** A total of 157 foci with abnormal FDG uptake were noted, two of which were seen only on PET/CT images. PET/CT images were essential in determining the exact anatomic location for 100 lesions (74% better localization in regions previously treated surgically or with irradiation vs 58% in untreated areas;  $P = .06$ ). On the basis of PET findings alone, 45 lesions were considered benign; 39, equivocal; and 71, malignant. With PET/CT, the fraction of equivocal lesions decreased by 53%, from 39 of 155 to 18 of 157 ( $P < .01$ ). PET/CT had a higher accuracy of depicting cancer than did PET (96% vs 90%,  $P = .03$ ). Six proved malignancies were missed with PET, but only one was missed with PET/CT. PET/CT findings altered the care for 12 (18%) of 68 patients. **CONCLUSION:** PET/CT is more accurate than PET alone in the detection and anatomic localization of head and neck cancer and has the clear potential to affect patient care.

**Implementation of the European Laryngological Society (ELS) basic protocol for assessing voice treatment effect.** DeJonckere, P. H., Crevier, B. L., Marie, J. P., Moerman, M., Remacle, M., Woisard, V. University Medical Center Utrecht, University of Utrecht, PO Box 85500 AZU F.02 504. NL 3508 GA Utrecht, The Netherlands. Ph.deJonckere@kmb.azu.nl. *Revue de Laryngologie – Otologie – Rhinologie* (2003) Vol. 124 (5), pp. 279–83, ISSN 0035-1334.

**OBJECTIVES:** 93 patients with various kinds of organic benign voice pathology (vocal fold nodules, polyp, Reinke's oedema, unilateral paralysis, sulcus/scar) and/or with muscle tension dysphonia, were evaluated before and after their voice treatment (phonosurgery with voice therapy, antireflux medication, or voice therapy alone) in order to check the clinical relevance of a basic multidimensional protocol for assessing functional results of voice treatments, as developed by the Committee on Phoniatics of the ELS. **MATERIAL AND METHOD:** The protocol has been used in different university voice clinics. It comprises 5 dimensions: Perception: Grade, Breathiness and Roughness from the GRBAS-scale, rated by two experienced judges: a phoniatician/laryngologist and a speech therapist. Acoustics: Jitter % and Shimmer% computed on a /a:/, at comfortable loudness and pitch. Also Fo-range and softest possible intensity. Videostroboscopy: Glottal closure, regularity, mucosal wave and symmetry, rated separately. Phonation quotient: computed by dividing the vital capacity (ml) by the maximum phonation time (s) (best value of 2x3 trials). Self rating by the patient: voice quality in itself and general social/occupational handicap due to the voice problem rated separately. **RESULTS:** Results show that, at group level, the overall effects for each parameter indicate

a significant improvement after treatment. However, the correlations between the pre/post changes for the different parameters are weak (low redundancy). **CONCLUSION:** The assessment of voice pathology needs to be multidimensional, as these multidimensional informations about voice changes lead to a better understanding of the actual way in which a treatment works.

**Use of a laryngeal mask during medialization laryngoplasty.** Remacle, M., Lawson, G., Mayne, A. University Hospital of Louvain at Mont-Godinne, Department of ORL-Head & Neck Surgery, Therasse Avenue 1, B-5530 Yvoir, Belgium. remacle@orlo.ucl.ac.be *Revue de laryngologie – otologie – rhinologie* (2003) Vol.124 (5), pp. 335–8, ISSN 0035-1334.

**OBJECTIVES:** In certain instances medialization thyroplasty under local anaesthesia is awkward for the patient and complicates surgery. Moreover, for certain operations such as for sulcus vergeture or presbyphonia, subjective auditory appreciation of vocal improvement under operating room conditions is not efficient. In those various instances, we therefore perform thyroplasty under general anaesthesia using a laryngeal mask, and under fiberoptic control. **MATERIAL AND METHOD:** A joint connecting the laryngeal mask to the ventilation tube is angled and comprises a small valve through which a fiberoptic is slipped. We have used this method since April 99 for 11 surgery procedures. **RESULTS AND CONCLUSION:** To date, we have not encountered intraoperative complications that have required intubating the patient in order to continue surgery. It can, however, occur that a change in head posture during surgery displaces the mask. In that event, surgery must be momentarily interrupted in order to re-position the mask. The vocal results met expectations.

**Imaging for staging of rhinosinusitis.** Zinreich, S. J. Department of Radiology, Johns Hopkins University, Baltimore, Maryland 21287, USA. *The Annals of Otology, Rhinology & Laryngology* Supplement (2004) May, Vol.193, pp. 19–23, ISSN 0096-8056.

Although clinical judgment is sufficient to diagnose rhinosinusitis in many cases, a number of patients with recurrent or complicated sinus disease require imaging studies. Advances in the field of diagnostic imaging techniques such as computed x-ray tomography (CT) and magnetic resonance imaging have enhanced our understanding and management of the disease. Magnetic resonance imaging excels in displaying soft tissue resolution and is superior in demonstrating the presence of neoplasia and fungal sinusitis but has limited advantages over CT scanning in demonstrating the regional anatomy (bony structure) and in the diagnosis of chronic rhinosinusitis. Computed tomography provides greater detailed information about the paranasal sinuses than do plain radiographic films. Rhinosinusitis staging systems utilizing CT techniques are reviewed. Although results from the Lund-Mackay system appear to be easily reproducible, there are still clinical challenges not addressed by this method of classification. Considering the patency of specific ostiomeatal channels and quantifying the volume of disease may add to the clinical value of future classification systems.

**Office-based treatment of glottal dysplasia and papillomatosis with the 585-nm pulsed dye laser and local anesthesia.** Zeitels, S. M., Franco, R. A. Jr, Dailey, S. H., Burns, J. A., Hillman, R. E., Anderson, R. R. Department of Otology and Laryngology, Harvard Medical School, Boston, Massachusetts, USA. *The Annals of Otology, Rhinology, and Laryngology* (2004) Apr, Vol.113 (4), pp. 265–76, ISSN 0003-4894.

Treatment of glottal papillomatosis and dysplasia was mirror-guided and performed in surgeons' offices in the 19th century. It migrated to the operating room in the 20th century to accommodate direct laryngoscopic surgery, which required

assistants to administer anesthesia and procedural support. Presently, the primary treatment goals, which are disease regression and voice restoration or maintenance, are tempered by the morbidity of general anesthesia and potential treatment-induced vocal deterioration. In fact, general anesthesia has been appropriately considered to be an acceptable source of morbidity for the promise of a precise procedure, which usually ensures airway safety and an optimal vocal outcome. However, patients with recurrent glottal papillomatosis and keratosis with dysplasia are typically monitored with various degrees of watchful waiting until there is a subjective judgment (on the part of the patient and surgeon) that the disease is more of a liability than is the procedure to treat it. Innovations in the 585-nm pulsed dye laser delivery system have allowed for its use in the clinic with local anesthesia through the working channel of a flexible fiberoptic laryngoscope. A prospective assessment was done on 51 patients in 82 cases of recurrent glottal papillomatosis (30) and dysplasia (52). All individuals had previously undergone microlaryngoscopic management with histopathologic evaluation. Five procedures could not be completed because of impaired exposure (2) or discomfort (3). Of those patients who could be treated, there was at least a 50% disease involution in 68 of 77 cases (88%) and 25% to 50% disease regression in the remaining 9 (12%). Patient self-assessment of the voice revealed that 34 of 77 were improved, 39 were unchanged, 4 were slightly worse, and none were substantially worse. These data confirm that diseased mucosa can be normalized without resection or substantial loss of vocal function. The putative mechanisms, which vary according to the fluence (energy) delivered by the laser, are photoangiolysis of sublesional microcirculation, denaturing of epithelial basement membrane linking proteins, and cellular destruction. Furthermore, this relatively safe, effective technique allowed for treatment of many patients (in a clinic setting) in whom classic surgery-related morbidity would have often delayed intervention.

**Roof of the parapharyngeal space: defining its boundaries and clinical implications.** Maheshwar, A. A., Kim, E. Y., Pensak, M. L., Keller, J. T. Department of Otolaryngology-Head and Neck Surgery, Neuroscience Institute, University of Cincinnati, Cincinnati, Ohio, USA. *The Annals of Otolaryngology, Rhinology, and Laryngology* (2004) Apr, Vol.113 (4), pp. 283–8, ISSN 0003-4894. The roof of the parapharyngeal space (PPS) is poorly defined. Although it is generally described as having prestyloid and poststyloid compartments, we believe that these terms are imprecise. Therefore, we define its boundaries, partition, and compartments. We completed macroanatomical and microanatomical dissections in 10 specimens from 5 human cadaver heads; bone measurements in 50 dry skulls; and axial and coronal cross-sectional studies in 2 cadaveric specimens. The PPS roof is bordered laterally by the medial pterygoid fascia and medially by the pharyngobasilar fascia. The tensor veli palatini fascia (TVPF) partitions this roof into an anterolateral compartment containing fat and part of the deep lobe of the parotid gland, and a posteromedial compartment containing the cartilaginous part of the eustachian tube, internal carotid artery, internal jugular vein, and cranial nerves IX through XII. The anteroposterior length measures 32 mm (range, 26.1 to 36.9 mm), and the mediolateral width measures 16.3 mm (range, 12.1 to 21.3 mm). The PPS roof has 3 important bony landmarks (ie, scaphoid fossa, styloid process, sphenoid spine); 3 important fasciae (ie, medial pterygoid fascia, TVPF, pharyngobasilar fascia); and 2 compartments, which are anterolateral and posteromedial to the TVPF. We believe that this is the first report to specifically focus on the roof of the PPS.

**Surgical application of a new robotic system for paranasal sinus surgery.** Steinhart, H., Bumm, K., Wurm, J., Vogeles, M., Iro, H. Department of Otorhinolaryngology-Head and Neck Surgery, University Erlangen-Nuremberg, Erlangen, Germany. *The Annals of Otolaryngology, Rhinology, and Laryngology* (2004) Apr, Vol.113 (4), pp. 303–9, ISSN 0003-4894.

The applicability of a robotic system for fully automated surgical procedures approaching the sphenoid sinus is evaluated. An integrated robotic system, A73, for computer navigation-guided, fully automated, and telemanipulation robotic performance is described. Details of the system comprising newly designed surgical instruments for robotic operations and preoperative planning protocols are provided. Experiments, with an operational

accuracy of less than 1 mm were followed by surgical tests, in which the results of fully automated and telemanipulation performances on 5 cadaveric heads are seen. The A73 system has been successfully used for a reproducible and accurate resection of the anterior wall of the sphenoid sinus. Therefore, we conclude that this system is suited for further testing toward approaching fully automated and more complex procedures of paranasal surgery.

**Electronystagmographic findings in benign paroxysmal positional vertigo.** Korres, S. G., Balatsouras, D. G., Ferekidis, E. Department of Otolaryngology, Athens National University, Hippokraton Hospital, Athens, Greece. *The Annals of Otolaryngology, Rhinology, and Laryngology* (2004) Apr, Vol.113 (4), pp. 313–8, ISSN 0003-4894.

The aim of this study was to investigate the electronystagmographic findings in patients with benign paroxysmal positional vertigo. A retrospective review of the records of 168 patients with this disease during the past 3 years was performed. Epidemiological data and results from the audiological and neuro-otologic workup, including electronystagmography, were recorded. One hundred fifty-one patients had involvement of the posterior canal, 14 of the horizontal canal, and 3 of the anterior canal. Seventy-two patients (42.8%) had abnormal findings on the caloric tests. Thirty-seven of them (22%) had canal paresis and 23 (13.7%) had directional preponderance, whereas in 12 patients (7.1%) both unilateral weakness and directional preponderance were found. Finally, 21 patients (12.5%) had spontaneous nystagmus. It may be thus concluded that electronystagmographic abnormalities are quite common in patients with benign paroxysmal positional vertigo. Their presence may be explained according to several mechanisms, which are further discussed herein.

**Enlarged translabyrinthine approach for the management of large and giant acoustic neuromas: a report of 175 consecutive cases.** Sanna, M., Russo, A., Taibah, A., Falcioni, M., Agarwal, M. Gruppo Otologico, Via Emmanuelli 42, 29100 Piacenza, Italy. *The Annals of Otolaryngology, Rhinology, and Laryngology* (2004) Apr, Vol.113 (4), pp. 319–28, ISSN 0003-4894.

The translabyrinthine approach was once considered inadequate for the removal of acoustic neuromas (ANs), but that theory has few proponents today. Over the years, the translabyrinthine approach has been modified into the enlarged translabyrinthine approach, with experience and technical refinements leading to a wider access. Between April 1987 and December 2001, the Gruppo Otologico of Piacenza-Rome was able to remove 175 ANs 3 cm or larger in size from the cerebellopontine angle by adopting this modified surgical technique. These tumors represented 24.7% of all 707 ANs for which surgery was performed during the same period of time. Among the 175 cases, there was only 1 death. The incidence of complications was very low and was comparable to results previously published in the literature. Consequently, the hospital stay was short, with a mean of 7.3 days (5.1 days in the last 45 cases). The preoperative ipsilateral hearing was already compromised in 119 of the 175 cases (68%; class C/D according to the Committee on Hearing and Equilibrium of the American Academy of Otolaryngology-Head and Neck Surgery, 1995). From our results, we can conclude that the use of the enlarged translabyrinthine approach in AN surgery is not dependent on tumor size. On the contrary, the advantages of a low rate of morbidity and a short hospital stay are ample proof that this is the best approach for the removal of large ANs.

**Treatment of the interarytenoid muscle with botulinum toxin for laryngeal dystonia.** Hillel, A. D., Maronian, N. C., Waugh, P. F., Robinson, L., Klotz, D. A. Department of Otolaryngology Head and Neck Surgery, University of Washington Medical Center, Box 356515, Seattle, WA 98195-6515, USA. *The Annals of Otolaryngology, Rhinology, and Laryngology* (2004) May, Vol.113 (5), pp. 341–8, ISSN 0003-4894.

The treatment of laryngeal dystonia with botulinum toxin has provided various degrees of relief to the majority of patients with adductor dysphonia; however, a significant number of patients have limited or no improvement with this type of therapy. It remains unclear why some patients respond to the routine administration of toxin to the thyroarytenoid muscles whereas others do not. Injections into the lateral cricoarytenoid muscles have provided an improved voice in some patients who were unresponsive to injections into the thyroarytenoid muscles. Fine-

wire electromyography can demonstrate the particular dystonic activity of these muscles to help determine which muscle is predominantly involved. It can also demonstrate dramatic dystonic activity in the interarytenoid (IA) muscle in many patients. We present the results of 23 patients treated with injections to the IA muscle after demonstration of dystonic IA activity. Ten have benefited from IA therapy. Five of these 10 patients did not have a good result from botulinum toxin until IA injections were added to the treatment plan. In 8 patients, IA therapy provided no improvement, and 5 patients were lost to adequate follow-up. According to fine-wire electromyography and clinical response, the IA muscle is an active dystonic muscle in some patients with laryngeal dystonia and should be treated with botulinum toxin in selected patients.

**Tremor laryngeal dystonia: treatment of the lateral cricoarytenoid muscle.** Maronian, N. C., Waugh, P. F., Robinson, L., Hillel, A. D. Department of Otolaryngology-Head and Neck Surgery, University of Washington Medical Center, Box 356515, 1959 NE Pacific St, Seattle, WA 98195, USA. *The Annals of Otolaryngology, Rhinology, and Laryngology* (2004) May, Vol.113 (5), pp. 349–55, ISSN 0003-4894.

Tremor laryngeal dystonia is a clinical entity distinct from adductor laryngeal dystonia, according to perceptual, stroboscopic, and fine-wire electromyographic findings. Treatment with botulinum toxin has proven more difficult for tremor laryngeal dystonia than for adductor laryngeal dystonia, yet no treatment variations have been considered that might produce improved clinical results. We present 81 patients with a clinical presentation of tremor laryngeal dystonia who were treated with a variety of approaches with botulinum toxin. On the basis of both fine-wire electromyographic findings and clinical response, currently 44 of those patients are being followed up after at least 3 injections. Twenty-one patients (48%) are maintained on lateral cricoarytenoid injections, and 23 (52%) are maintained on thyroarytenoid muscle injections. The electromyographic findings of this group are presented along with their clinical outcome. According to our findings, the majority of patients with tremor laryngeal dystonia can be successfully treated with botulinum toxin if the practitioner includes injections to the lateral cricoarytenoid muscle as a treatment option.

**Surgical management of special cases of intractable Meniere's disease: unilateral cases with intact canals and bilateral cases.** Kitahara, T., Kondoh, K., Morihana, T., Okumura, S., Mishiro, Y., Kubo, T. Department of Otolaryngology and Sensory Organ Surgery, Osaka University Graduate School of Medicine, Osaka, Japan. *The Annals of Otolaryngology, Rhinology, and Laryngology* (2004) May, Vol.113 (5), pp. 399–403, ISSN 0003-4894.

If a clinician seeks to allow patients with vertigo to return to work as soon as possible, it is very important to determine the appearance of vestibular symptoms during convalescence just after treatment, as well as the long-term results. Apprehensive patients with vertigo may undergo severe psychological torment if treatment requires long-term rest in bed before they can return to daily life. In this paper, we observed postoperative vestibular symptoms (subjective sensation and objective nystagmus) in 50 patients with intractable Meniere's disease, including cases from our previous preliminary report, during the period of convalescence just after endolymphatic sac drainage and steroid instillation surgery (EDSS). All symptoms were eliminated within 8 days after EDSS. There was no significant difference in the duration of any vestibular symptoms between bilateral (n = 8) and unilateral cases (n = 42). This result indicates that EDSS could be as safe a treatment for bilateral Meniere's disease as for unilateral disease. In unilateral cases with intact semicircular canal function (n = 17), postoperative evoked vestibular sensation, positional, and positioning (Dix-Hallpike) nystagmus disappeared significantly earlier than in those with canal paresis (n = 25). This result indicates that EDSS could keep the vestibular peripheral function of patients with unilateral Meniere's disease with intact canals quite stable after surgery. Therefore, EDSS could be recommended as an initial, less-invasive surgical treatment for intractable Meniere's disease, especially in unilateral cases with intact canals and in bilateral cases.

**Intratympanic gentamicin for intractable Meniere's disease: 5-year follow-up.** Atlas, J., Parnes, L. S. Department of Otolaryngology, University of Western Ontario, London, Ontario. *The Journal of Otolaryngology* (2003) Oct, Vol.32 (5), pp. 288–93, ISSN 0381-6605.

**OBJECTIVE:** To determine the efficacy and morbidity of intratympanic gentamicin titration therapy on patients with incapacitating unilateral Meniere's disease. **METHOD:** The study consisted of a retrospective chart review and patient interviews. Sixty-eight patients had been followed for a minimum of 24 months and were reported on in an earlier study. Forty-six of these individuals were available for detailed follow-up at 5 years post-gentamicin therapy. **MAIN OUTCOME MEASURES:** Vertigo frequency, hearing status, personal disability ratings, and tinnitus level before and after gentamicin therapy were measured. **RESULTS:** Seventy-four percent of patients showed complete vertigo control and an additional 7% showed substantial vertigo control. There was also significant improvement in personal ratings of social and economic functioning. Overall, the group showed no combined statistically significant changes in any of the hearing parameters. **CONCLUSION:** Intratympanic gentamicin titration therapy provides excellent vertigo control, with a similarly significant improvement in both personal and occupational functioning.

**Sudden sensorineural hearing loss: literature survey on recent studies.** Koc, A., Sanisoglu, O. Department of Otorhinolaryngology, Head and Neck Surgery, Haseki Training and Research Hospital, Istanbul, Turkey. *The Journal of Otolaryngology* (2003) Oct, Vol.32 (5), pp. 308–13, Refs: 38, ISSN 0381-6605.

Sudden sensorineural hearing loss (SSHL) is a symptom of cochlear injury. It is characterized by sudden onset, and, within a few hours, it reaches its maximum peak. It may be accompanied by vertigo and tinnitus. Many hypotheses have been advanced to explain its etiology: viral inflammation, vascular diseases, allergic reaction, rupture of intralabyrinthine membranes, and autoimmune diseases. The decrease in hearing may be unilateral or bilateral. To assess the histopathology of the labyrinth in cases of SSHL and to provide a better understanding of the etiopathogenesis, many studies have been carried out. Atrophy of the organ of Corti, loss of cochlear neurons, labyrinthine fibrosis, formation of new bone, and degeneration of the spiral ligament, vascular stria, hairy cells, dendrites, and apical spiral ganglion cells have been reported in temporal bone studies. In this article, new studies on the histopathologic and therapeutic bases of SSHL are reviewed.

**NF-Kappa-B downregulation strategies in head and neck cancer treatment.** Patel, A., Miller, L., Ahmed, K., Ondrey, F. Department of Otolaryngology, University of Minnesota, Minneapolis, Minnesota, USA. *Otolaryngology – Head and Neck Surgery* (2004) Sep, Vol.131 (3), pp. 288–95, ISSN 0194-5998.

**OBJECTIVE:** Multiple biochemical and genetic strategies were used to downregulate early response gene NF-KappaB, whose activation controls squamous cell cancer-associated pathways. **STUDY DESIGN:** NA cells, an oral cavity squamous cell cancer with high NF-KappaB activity, were cultured with biochemical NF-KappaB inhibitors TPCK and Calpain I inhibitor, as well as specific NF-KappaB antisense oligonucleotides. Cell proliferation was measured, as was NF-KappaB downregulation using functional luciferase reporter genes and electromobility shift assays. **RESULTS:** Significant downregulation of cell proliferation and NF-KappaB functional activity were demonstrated with either biochemical inhibitor, as well as the antisense oligonucleotides; however, additional nonspecific toxicities were observed with control antisense oligonucleotides. **CONCLUSION AND SIGNIFICANCE:** NF-KappaB is a potential target for squamous cancer treatment, as it is constitutively upregulated in vitro. Biochemical inhibition of NF-KappaB may be a viable treatment strategy for head and neck squamous cancers.

**The usefulness of cytokeratin immunohistochemistry in detection of lymph node micrometastasis in neck dissection specimens.** Kwon, S. Y., Kim, H. J., Woo, J. S., Jung, K. Y., Kim, I. Department of Otolaryngology-Head and Neck Surgery, Seoul, Korea. *Otolaryngology – Head and Neck Surgery* (2004) Sep, Vol.131 (3), pp. 300–6, ISSN 0194-5998.

**OBJECTIVE:** Our study was designed to find out the rate and the characteristics of micrometastasis in cervical lymph nodes using

immunohistochemical staining. **STUDY DESIGN AND SETTING:** From 69 patients, 1710 lymph nodes negative for metastasis on hematoxylin-eosin stain, were examined. Immunohistochemical stain was performed using pan-cytokeratin AE1/AE3 antibody. **RESULTS:** In 13 cases, occult lymph node metastasis was detected by immunohistochemical method. On retrospective review of the hematoxylin-eosin stain by the pathologist, lymph node metastasis was detected in 4 of 13 patients. **CONCLUSIONS:** Because the immunohistochemical method enhanced the detection rate of occult micrometastasis in cervical lymph nodes of head and neck squamous cell carcinoma patients, it may be recommended for routine diagnostic use in patient with negative for a lymph node metastasis on routine hematoxylin-eosin stain.

**Sclerotherapy for congenital lesions in the head and neck.** Kim, K. H., Sung, M. W., Roh, J. L., Han, M. H. Department of Otolaryngology-Head and Neck Surgery, Cancer Research Institute, Seoul, Korea. kimkwang@plaza.snu.ac.kr. *Otolaryngology – Head and Neck Surgery* (2004) Sep, Vol.131 (3), pp. 307–16, ISSN 0194-5998.

**OBJECTIVES:** This study retrospectively reviews the results of sclerotherapy using several sclerosants for congenital lesions of the head and neck. **METHODS AND PATIENTS:** Between May 1990 and May 2002, patients with lymphatic malformations were treated by sclerotherapy; 10 with bleomycin, and 25 with OK-432. OK-432 sclerotherapy was also applied in 9 patients with plunging ranula and in 1 patient with branchial anomaly. Percutaneous sclerotherapy with ethanolamine oleate was used in 29 patients with venous malformations, and 28 patients with pyriform sinus fistula were treated by trichloroacetic acid chemocauterization. **RESULTS:** Overall, two thirds of patients with these lesions showed marked to complete response. One case of mortality occurred in the bleomycin sclerotherapy group. However, no major complications by other sclerosants were found. In lymphatic malformations, history of excision before sclerotherapy was a poor prognostic factor. **CONCLUSION:** Sclerotherapy using these sclerosants is a safe and effective primary treatment for congenital lesions in the head and neck.

**Proton pump inhibitor therapy for chronic laryngo-pharyngitis: a randomized placebo-control trial.** Steward, D. L., Wilson, K. M., Kelly, D. H., Patil, M. S., Schwartzbauer, H. R., Long, J. D., Welge, J. A. Department of Otolaryngology-Head and Neck Surgery, University of Cincinnati College of Medicine, OH 45267-0528, USA. David.Steward@uc.edu. *Otolaryngology – Head and Neck Surgery* (2004) Oct, Vol.131 (4), pp. 342–50, ISSN 0194-5998.

**OBJECTIVE:** To determine the efficacy of proton-pump inhibitor (PPI) therapy for chronic laryngo-pharyngitis treated with lifestyle modification. **STUDY DESIGN AND METHODS:** Double-blind, randomized trial comparing two-month Rabeprazole (20 mg b.i.d.) to placebo control. **RESULTS:** Compared to baseline, both PPI and control patients had significant improvement in total reflux symptoms ( $P = 0.002$  and  $P = 0.03$  respectively), with significant improvement in “laryngo-pharyngeal” but not “typical” reflux symptoms. No significant difference was noted for change in reflux symptoms between PPI-treated and control patients ( $P = 0.44$ ). Significant global improvement was noted by 50% of control and 53% of PPI-treated patients ( $P = 1.0$ ). No significant differences were noted within or between treatment groups for change in health status or videostroboscopy grade. Lifestyle modification compliance correlated significantly with global improvement. **CONCLUSION:** Compared to baseline, lifestyle modification for 2 months significantly improved chronic laryngo-pharyngitis symptoms. When compared to control, treatment with a PPI failed to demonstrate significantly greater improvement in reflux symptoms, health status, or laryngeal appearance.

**Vocal fold augmentation with calcium hydroxylapatite.** Belafsky, P. C., Postma, G. N. Department of Otolaryngology, UC Davis Medical Center, Sacramento, CA 95817, USA. pcb@san.rr.com. *Otolaryngology – Head and Neck Surgery* (2004) Oct, Vol.131 (4), pp. 351–4, ISSN 0194-5998.

**OBJECTIVES:** Voice disorders affect more than 3% of the general population. Vocal fold atrophy is a part of the normal aging process, with up to 60% of 60-year-old individuals displaying evidence of glottal insufficiency. A safe, effective, and durable

substance for injection augmentation of the vocal folds is not currently available. The purpose of this investigation was to describe our preliminary experience with calcium hydroxylapatite (CaHA) for vocal fold augmentation. **METHODOLOGY:** All patients undergoing injection augmentation of the vocal folds with CaHA between January 1, 2002 and June 1, 2003 were prospectively evaluated. Data concerning indications, technique, functional outcome, and complications were collected. In addition, the larynx donated from a woman who underwent vocal fold augmentation with CaHA and subsequently died from terminal cancer was histologically examined. **RESULTS:** A total of 39 vocal folds in 23 individuals were injected with CaHA. The mean age of the cohort was 62. Fifty-two percent were male. The indications for augmentation were unilateral vocal fold paralysis (9/23), unilateral vocal fold paresis (5/23), presbylarynx (3/23), Parkinson's (3/23), bilateral vocal fold paresis (2/23), and abductor spasmodic dysphonia (1/20). There were no adverse reactions. All individuals reported improvement on a self-administered disease-specific outcome measure ( $P < 0.001$ ). The pathology from the donated larynx 3 months after injection revealed intact CaHA spherules in good position with a minimal, monocellular inflammatory reaction to the gel carrier and no evidence of implant rejection. **CONCLUSIONS:** Initial experience with vocal fold augmentation using CaHA is promising. Long-term safety and efficacy needs to be established.

**Transnasal endoscopic repair of choanal atresia: why stent?** Schoem, S. R. Department of Otolaryngology, Connecticut Children's Medical Center, Hartford, CT 06106, USA. sschoem@cmckids.org. *Otolaryngology – Head and Neck Surgery* (2004) Oct, Vol.131 (4), pp. 362–6, ISSN 0194-5998.

**OBJECTIVE:** To analyze the outcome of transnasal endoscopic repair of choanal atresia in children without stenting. **DESIGN:** Retrospective review. **SETTING:** Academic pediatric referral center. **PATIENTS:** Thirteen children ages 2 days to 13 years old (mean 45 months) who presented with unilateral (8) or bilateral (5) choanal atresia and underwent transnasal endoscopic surgery between January 1997 and May 2002. No stents were used. All patients received combinations of oral steroids, topical nasal steroids, and oral antibiotics. Patency was defined as less than 50% restenosis. **RESULTS:** The 4 patients who underwent office serial examination alone after surgery remained patent. Seven of the 9 patients who underwent reexamination under general anesthesia had varying amounts of emerging granulation tissue or minor synechia formation that resolved with microdebrider excision. All serial office endoscopies demonstrated no restenoses. No office dilations were performed. There were no long-term complications. One patient (2 days old) who underwent tracheoesophageal fistula repair and bilateral choanal atresia repair on the same day required a blood transfusion. Both patients with tracheostomies were decannulated. **CONCLUSIONS:** Transnasal endoscopic repair of choanal atresia, both unilateral and bilateral, is safe, and is effective without stenting. Postoperative failure of endoscopic approaches may be a result of prolonged mucosal trauma from stenting rather than any deficiency inherent in the surgical technique. Adjuvant therapy may not offer any advantage in promoting patency.

**Salivary epidermal growth factor concentration in adults with reflux laryngitis.** Eckley, C. A., Michelsohn, N., Rizzo, L. V., Tadakoro, C. E., Costa, H. O. Otolaryngology Department, Santa Casa School of Medicine of Sao Paulo, Brazil. ceckley@unisis.com.br. *Otolaryngology – Head and Neck Surgery* (2004) Oct, Vol.131 (4), pp. 401–6, ISSN 0194-5998.

**OBJECTIVE:** The mechanisms involved in the mucosal alterations of laryngopharyngeal reflux (LPR) have not been well established. Reports indicate a decrease in the salivary epidermal growth factor (EGF) of patients with reflux esophagitis, but there are no reports of its behavior in LPR. Our objective was to determine the salivary concentration of EGF in adults with LPR. **STUDY DESIGN AND SETTING:** Salivary EGF concentration of 26 patients with LPR and 20 healthy controls was determined using a commercially available ELISA kit. Patients with LPR were graded according to endoscopic and laryngoscopic criteria. **RESULTS:** Salivary EGF concentration was significantly lower in the LPR group when compared with controls ( $P = 0.002$ ). No correlation between the severity of laryngeal findings or esophagitis and salivary EGF concentration could be determined.

**CONCLUSIONS:** The decreased salivary concentration of EGF in adults with LPR suggests that a deficiency in this polypeptide could be associated to the disease.

**Anatomic limitations of posterior exposure of the sinus tympani.**

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**OBJECTIVE:** The sinus tympani is a challenging area for the otologic surgeon to access and from which to remove the disease process. Recently, a posterior approach to the sinus tympani through the mastoid was proposed as an alternative technique in cases of deep sinus tympani. **STUDY DESIGN AND SETTING:** The posterior approach was performed by dissecting the triangular bony area formed by the facial nerve, lateral semicircular canal, and posterior semicircular canal in 8 temporal bone specimens. **RESULTS:** The edges of the triangle on the facial nerve and lateral semicircular canal were almost constant at 5 mm. The edge on the posterior semicircular canal was about 4 mm. **CONCLUSION:** It is possible to expose the sinus tympani from the posterior by careful dissection through this triangle, which has almost constant dimensions.

**Multivariate predictors of occult neck metastasis in early oral tongue cancer.**

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**OBJECTIVES:** The elective dissection of cervical lymph nodes from patients with early oral tongue cancer and a clinically negative neck (T1/T2N0), remains an unsettled issue that continues to be investigated. This study examines clinical and histopathologic factors through univariate and multivariate analysis to correlate the risk of neck micrometastasis in patients with T1/T2N0 squamous cell carcinoma of the oral tongue. **STUDY DESIGN AND METHODS:** The clinical files and histologic sections of tumor from 45 clinically determined N0 patients were retrospectively analyzed. The factors examined include degree of tumor cell differentiation, T1/T2 staging, presence of perineural invasion, presence of angiolymphatic invasion, type of invasion front, depth of muscle invasion, and tumor thickness. Nbs1 in combination with cisplatin for treatment of advanced and metastatic HNSCC.

**Efficacy of routine bilateral neck dissection in the management of supraglottic cancer.**

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**OBJECTIVE:** In a previous study, we reported that the contralateral undissected neck was the most common site of failure in patients treated for squamous cell carcinoma of the supraglottic larynx. Since then, we have altered our treatment of

all patients with T2-T4 supraglottic cancer and selective T1 cases to include routine bilateral neck dissection. In the present study, we compare the long-term efficacy of routine bilateral neck dissections to historic controls in the treatment of patients with supraglottic cancer. **STUDY DESIGN AND SETTING:** A retrospective chart review on all patients undergoing primary surgery for supraglottic carcinoma between 1989 and 2000 was performed. All had undergone routine bilateral neck dissection. The most proximal area of recurrent disease was identified as the site of recurrence. Rates of recurrence, 2-year overall survival, and 2-year disease-specific survival were calculated. Results were compared to historical data using Fisher's exact test. **RESULTS:** Of 180 patients identified, 115 patients with minimum 2-year follow-up and meeting exclusion criteria were included in the analysis. Four patients (3.5%) experienced local recurrence, 9 patients (7.8%) had cervical recurrence, and 8 patients had distant spread (7.0%). Recurrence in the neck (7.8%) has been significantly reduced from the historical recurrence rate (20%) prior to instituting routine bilateral neck dissections ( $P = 0.009$ ). The 2-year survival increased from 72% to 82.6% ( $P = 0.0408$ ). **CONCLUSION AND SIGNIFICANCE:** Routine bilateral neck dissection decreases cervical recurrence and appears to improve survival in the management of supraglottic cancer.

**Salvage surgery for locally recurrent nasopharyngeal carcinoma-A 10-year experience.**

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**OBJECTIVE:** To evaluate the result of salvage surgery for patients with primary recurrence of nasopharyngeal carcinoma (NPC) after radiation therapy. **STUDY DESIGN AND SETTING:** Prospective cohort at a tertiary referral center. **PATIENTS AND METHODS:** Thirty-eight consecutive patients with primary recurrence of NPC after radiation failure underwent salvage surgery for curative intention via the facial translocation approach from July 1993 to December 2002. The follow-up time ranged from 2 to 88 months. Twelve patients with intracranial and skull base invasion needed a combined neurosurgical approach. Eight patients had additional postoperative radiation therapy. **RESULTS:** The actuarial 3-year survival and local control rate was 60% and 72.8%, respectively. Ten (83.3%) of 12 patients with intracranial and skull base invasion achieved local control. There was no surgical mortality, and the morbidity rate was only 13.2%. **CONCLUSION AND SIGNIFICANCE:** The results of this study reveal better outcome of salvage surgery than that of most published literature of reirradiation for recurrent NPC. With the adequate exposure provided by the facial translocation approach, an integrated concept of skull base surgery, and the collaboration of neurosurgeons, we can extend our surgical indications of salvage surgery and resect many advanced lesions with acceptable mortality and morbidity.