

Abstract Selection

Sino-nasal cancer in Denmark 1982-1991—a nationwide survey. Grau, C., Jakobsen, M.H., Harbo, G., Svane-Knudsen, V., Wedervang, K., Larsen, S. K., Rytter, C. Department of Oncology, Aarhus University Hospital, Denmark. caigrau@dadlnet.dk. *Acta Oncologica* (2001), Vol. 40 (1), pp. 19–23.

Cancer of the nasal cavity and paranasal sinuses is a rare disease. The many different histologies and sites make the management of this disease a challenge. The current report from the Danish Society for Head and Neck Oncology comprises a joint analysis of five retrospective series covering the entire country, with 315 patients seen in the 10-year period from 1 January 1982 to 31 December 1991. Tumour sites were nasal cavity (n = 156), maxillary sinus (n = 139), ethmoid sinus (n = 14), sphenoid sinus (n = 5) and frontal sinus (one case). The most common histologies included squamous cell carcinoma (126 cases), adenocarcinoma (41 cases), malignant melanoma (38 cases) and malignant lymphoma (34 cases). A total of 284 patients (90 per cent) received treatment with curative intent; most of these patients were treated with radiotherapy, either alone (120 patients) or in combination with surgery (111 patients). There was no significant difference between the five centres in disease specific survival and overall survival. The results showed that histology, localization and nodal involvement were significant prognostic factors for locoregional control and survival. Patients with squamous cell carcinoma had a significantly poorer prognosis compared with patients with adenocarcinoma. However, a Cox multivariate analysis revealed that this was likely the result of tumour localization, as most adenocarcinomas were in the nasal cavity. The experience from this data collection has inspired the Danish Society for Head and Neck Oncology to arrange common data registration of several other clinical head and neck series. In the future, the Society plans to expand this activity further.

Clinical advantages of dual activity in allergic rhinitis. Horak, F. ENT Clinic, University Hospital, Vienna, Austria. Friedrich.horak@akh-wien.ac.at. *Allergy* (2000), Vol. 55 Suppl 64, pp. 34–9.

Symptoms of allergic rhinitis include sneezing; itching of the eyes, nose, and throat; nasal obstruction; and rhinorrhoea; they may be seasonal or perennial, depending on the causative allergen. The major symptom of perennial allergic rhinitis is nasal obstruction. Sneezing and rhinorrhoea are often present, but are less troublesome than in seasonal allergic rhinitis. Symptom relief is a priority in allergic rhinitis because patients have a severely impaired quality of life. The nasal vascular system is complex. Histamine acts on postcapillary venules during both the immediate and late phase of reactivity and causes plasma extravasation. Other inflammatory mediators can also induce this reaction. Thus, histamine antagonists that also have some additional antiallergic properties have advantages in the treatment of allergic rhinitis. Mizolastine is a second-generation antihistamine that has been shown, in experimental studies, to possess 5-lipoxygenase inhibitory properties in addition to its H₁-receptor antagonistic activity. In the treatment of seasonal allergic rhinitis, mizolastine 10 mg/day has been shown to be effective in reducing nasal and ocular symptoms. It has been shown to be significantly more effective than placebo with a greater percentage of responders. Another study has shown that symptoms of seasonal allergic rhinitis in mizolastine-treated patients were reduced more significantly than in cetirizine-treated patients on the second and third days of treatment. In perennial allergic rhinitis, mizolastine significantly improved symptoms of nasal obstruction compared with placebo and also significantly reduced nasal membrane colour, nasal secretions, and mucosal swelling as shown by rhinoscopy. These effects were maintained over a five-month treatment period.

Mizolastine has also been shown to be at least as effective as loratadine, and in one trial even superior in the treatment of perennial allergic rhinitis.

Randomized controlled trial of the effect of ventilation tubes (grommets) on quality of life at age one to two years. Rovers, M. M., Krabbe, P. F., Straatman, H., Ingels, K., van der Wilt, G. J., Zielhuis, G. A. Department of Otorhinolaryngology, University Medical Centre Nijmegen, PO Box 9101, 6500 HB Nijmegen, Netherlands. *Archives of Disease in Childhood* (2001) January, Vol. 84 (1), pp. 45–49.

AIMS: To study the effect of treatment with ventilation tubes on quality of life in children aged one to two years with persistent otitis media with effusion (OME), as compared to watchful waiting. **METHODS:** Multicentre randomized controlled trial (n = 187) with two treatment arms: ventilation tubes and watchful waiting. Children were detected by auditory screening at the age of nine to 12 months, and were subsequently diagnosed as having persistent (four to six months) bilateral OME. Quality of life (TAIQOL and Erickson scales) was measured at 0, six, and 12 months follow up. **RESULTS:** There was improvement in quality of life, but the ventilation tube group did not improve significantly more than the watchful waiting group. Although an attempt has been made to identify possible subgroups that benefit more, we were not able to find such subgroups, which might be a result of lack of power in this study. **CONCLUSION:** Ventilation tubes do not have a substantial incremental effect on the quality of life of infants aged one to two years with uncomplicated persistent bilateral OME.

Treatment of 193 episodes of laryngeal edema with C1 inhibitor concentrate in patients with hereditary angioedema. Bork, K., Barnstedt, S. E. Universitaets-Hautklinik, Langenbeckstr. 1, 55131 Mainz, Germany. bork@hautklinik.klinik.uni-mainz.de. *Archives of Internal Medicine* (2001) March 12, Vol. 161 (5), pp. 714–8.

BACKGROUND: Hereditary angioedema (HAE) is an autosomal dominant disease (Mendelian inheritance in Man 106100) caused by an inherited deficiency of C1 inhibitor (C1-INH) function. The clinical symptoms include skin swelling, abdominal pain, and life-threatening episodes of upper airway obstruction. We evaluated the efficiency of C1-INH concentrate for treating sudden airway compromise. **METHODS:** A series of 95 patients with HAE and a functional deficiency of C1-INH belonging to 59 families underwent screening for laryngeal edema. Double-blind treatment of randomized patients was not justifiable because of the life-threatening nature of this condition. Efficacy was evaluated by determining the interval from injection of C1-INH concentrate to the beginning of resolution of symptoms. The mean duration of episodes of laryngeal edema was compared in treated and untreated patients. Clinical information was obtained from emergency department physicians, the hospitals involved, reports of the general practitioners, and patients and their relatives. **RESULTS:** Forty-two patients had 517 episodes of laryngeal edema. Eighteen patients received 500- or 1000-U injections of C1-INH concentrate in 193 episodes. The C1-INH concentrate was effective in all laryngeal edemas. The interval from injection to interruption in progress of symptoms ranged from 10 minutes to four hours (mean \pm SD, 42.2 \pm 19.9 minutes). The mean \pm SD duration of laryngeal edema was 15.3 \pm 9.3 hours in patients who received C1-INH concentrate and 100.8 \pm 26.2 hours in those who did not. **CONCLUSIONS:** Injected C1-INH concentrate is highly and rapidly effective in the treatment of laryngeal edema of HAE. Relief and resolution of symptoms begins 30 to 60 minutes after injection, and duration of the upper airway obstruction is substantially reduced.

Sudden sensorineural hearing loss: does application of glucocorticoids make sense? Alexiou, C., Arnold, W., Fauser, C., Schratzenstaller, B., Gloddek, B., Fuhrmann, S., Lamm, K. Klinikum rechts der Isar, Hals-Nasen-Ohren Klinik und Poliklinik, Ismaningerstr. 22, 81675 Muenchen, Germany. C.Alexiou@lrz.tu-muenchen.de. *Archives of Otolaryngology – Head and Neck Surgery* (2001) March, Vol. 127 (3), pp. 253–8.

BACKGROUND: Treatment of sudden sensorineural hearing loss (SSNHL) consists of administration of blood flow-promoting drugs with or without the addition of glucocorticoids. General guidelines based on scientific data do not currently exist. **OBJECTIVE:** To investigate the effect of glucocorticoids on the treatment of SSNHL. **SETTING:** Academic medical center. **PATIENTS AND METHODS:** We retrospectively analysed the audiograms of 603 patients with SSNHL: 301 patients (cared for between January 1, 1986, and December 31, 1991) received intravenous blood flow-promoting drugs without glucocorticoids and 302 patients (cared for between January 1, 1992, and December 31, 1998) received intravenous blood flow-promoting drugs with glucocorticoids (intravenous \pm oral application). The age distribution of patients with SSNHL in lower, middle, and higher frequencies was similar in both groups. **RESULTS:** Patients with SSNHL in lower and middle frequencies (250–2000 Hz) who received glucocorticoids (prednisolone-21-hydrogen-succinate) showed significantly better recovery of hearing levels compared with those who did not receive glucocorticoids ($P=0.05$). There was no significant difference at higher frequencies between the two groups. Patients with SSNHL throughout all frequencies (pancochlear hearing loss) who received glucocorticoids also had significantly better recovery of hearing levels compared with those who received blood flow-promoting drugs alone ($P=0.05$). Also, patients with elevated blood sedimentation rates had better improvement of their hearing levels after receiving glucocorticoids. **CONCLUSIONS:** Administration of glucocorticoids should be recommended for treatment of patients with SSNHL. In particular, patients with SSNHL in the lower and middle frequency range and pancoclear hearing loss have significantly better recovery of hearing levels.

Cricotracheal resection in children. Rutter, M. J., Hartley, B. E., Cotton, R. T. Department of Otolaryngology, Children's Hospital Medical Center, 3333 Burnet Ave, Cincinnati, OH 45229-3039, USA. ruttmm0@chmcc.org. *Archives of Otolaryngology – Head and Neck Surgery* (2001) March, Vol. 127 (3), pp. 289–92.

OBJECTIVE: To review our experience with cricotracheal resection in a pediatric population. **DESIGN:** Prospective case review of a cohort of patients undergoing cricotracheal resection. **SETTING:** Tertiary care pediatric hospital. **PATIENTS:** Forty-four consecutive patients undergoing cricotracheal resection between January 1, 1993, and December 31, 1998. **MAIN OUTCOME MEASURES:** Decannulation rates. **RESULTS:** Thirty-eight (86 per cent) of the 44 children are decannulated. The ultimate decannulation rate was independent. Twenty-one children had a salvage cricotracheal resection, and 19 (90 per cent) are decannulated. Nine children had an extended cricotracheal resection, of whom five (56 per cent) are decannulated. A primary cricotracheal resection was performed on a child on whom no previous open airway procedure had been performed. A salvage cricotracheal resection was performed on a child on whom previous open airway reconstruction had not resulted in an adequate airway. An extended cricotracheal resection was performed on a child on whom the cricotracheal resection was combined with a second procedure, either additional expansion cartilage grafting or an open arytenoid procedure. Most of these children had complex airway pathologic conditions. **CONCLUSION:** Cricotracheal resection complements standard laryngotracheal reconstruction techniques in a pediatric population.

Long-term therapy for spasmodic dysphonia: acoustic and aerodynamic outcomes. Mehta, R. P., Goldman, S. N., Orloff, L. A. Division of Otolaryngology, University of California, San Diego School of Medicine, 200 W Arbor Dr, San Diego, CA 92103-8891, USA. *Archives of Otolaryngology – Head and Neck Surgery* (2001) April, Vol. 127 (4), pp. 393–9.

OBJECTIVE: To evaluate the long-term aerodynamic, acoustic, and electromyographic effects of serial botulinum toxin (BT) injections in patients with adductor spasmodic dysphonia. **DESIGN:** Two-year, nonrandomized, controlled, before-after study.

SETTING: Ambulatory care clinic at a single academic medical center. **PATIENTS:** A convenience sample of 91 patients with adductor spasmodic dysphonia evaluated and treated during two years and 64 age- and sex-matched controls. **INTERVENTIONS:** Injections of BT into the thyroarytenoid muscles in conjunction with electromyographic evaluation and acoustic and aerodynamic evaluation before and after serial BT injections. **MAIN OUTCOME MEASURES:** Translaryngeal airflow, jitter, shimmer, signal-to-noise ratio, fundamental frequency, standard deviation of fundamental frequency, maximum phonation time, and inappropriate muscle activity by electromyography. **RESULTS:** Translaryngeal airflow, jitter, and shimmer improved significantly after serial BT treatments and showed sustained improvement over time. Fundamental frequency, standard deviation of fundamental frequency, and signal-to-noise ratio did not change significantly after BT treatment. Electromyographic data suggested decreased inappropriate muscle activity with repeated BT injections. **CONCLUSION:** Treatment with BT provides ongoing relief of voice perturbations in patients with adductor spasmodic dysphonia who undergo long-term cumulative therapy.

Secondary otalgia in an adult population. Kuttilla, S. J., Kuttilla, M. H., Niemi, P. M., Le Bell, Y. B., Alanen, P. J., Suonpaae, J. T. Otonhammas Oy, PO Box 612, FIN 40101 Jyvaeskylae, Finland. *Archives of Otolaryngology – Head and Neck Surgery* (2001) April, Vol. 127 (4), pp. 401–5.

OBJECTIVE: To analyse the associations of secondary otalgia with general health, stress, insomnia, bruxism, and recurrent head and neck region pains. **DESIGN:** A population-based survey. **SETTING:** General community. **SUBJECTS:** A total of 391 randomly selected subjects (186 men, 205 women) aged 25, 35, 45, 55 or 65 years. **METHODS:** Standardized interview and self-report questionnaires of general health and stress. **RESULTS:** Otalgia was statistically significantly associated with all the studied factors. However, in the whole study group, independent predictors of otalgia were the obvious need for temporomandibular disorder treatment, high frequency of stress symptoms, and bruxism. When analysed in women, the predictors of otalgia were the obvious need for temporomandibular disorder treatment, high frequency of stress symptoms, and age. When analysed in men, recurrent neck pain was a predictor of otalgia. **CONCLUSIONS:** We suggest that after ruling out otorhinolaryngologic infectious diseases and temporomandibular disorder in patients with secondary otalgia, the next step is to explore the frequency of stress symptoms, bruxism, and recurrent neck pain. Furthermore, women and men may need a different approach in diagnostics of secondary otalgia. By diagnosing and treating these predictors of otalgia, it may be possible to reach a more successful outcome.

Effectiveness of Ginkgo biloba in treating tinnitus: double blind, placebo controlled trial. Drew, S., Davies, E. Pharmacology Department, Division of Neuroscience, University of Birmingham, Birmingham B15 2TT, UK. s.j.drew@bham.ac.uk. *British Medical Journal* (2001) January 13, Vol. 322 (7278), pp. 73.

OBJECTIVE: To determine whether Ginkgo biloba is effective in treating tinnitus. **DESIGN:** Double blind, placebo controlled trial using postal questionnaires. **PARTICIPANTS:** 1121 healthy people aged between 18 and 70 years with tinnitus that was comparatively stable; 978 participants were matched (489 pairs). **Intervention:** 12 weeks' treatment with either 50 mg Ginkgo biloba extract LI 1370 three times daily or placebo. **MAIN OUTCOME MEASURES:** Participants' assessment of tinnitus before, during, and after treatment. Questionnaires included items assessing perception of how loud and how troublesome tinnitus was. Changes in loudness were rated on a six point scale. Changes in how troublesome were rated on a five point scale. **RESULTS:** There were no significant differences in primary or secondary outcome measures between the groups. Thirty-four of 360 participants receiving active treatment reported that their tinnitus was less troublesome after 12 weeks of treatment compared with 35 of 360 participants who took placebo. **CONCLUSIONS:** 50 mg Ginkgo biloba extract LI 1370 given three times daily for 12 weeks is no more effective than placebo in treating tinnitus.

Complications of percutaneous tracheostomy. Briche, T., Le Manach, Y., Pats, B. Department of Ear, Nose, Throat, Head and Neck Surgery, Hôpital d'Instruction des Armées Percy, Clamart Cedex, France. t_briche@club-internet.fr. *Chest* (2001)

April, Vol. 119 (4), pp. 1282–3.

Percutaneous tracheostomy is a technique that, reputedly, is simple to perform and causes few complications. It is routinely used in intensive care. We present two patients with tracheal stenosis. In one patient, we had to perform an anastomotic resection to cure the patient; in the other patient, we had to place an endoluminal conformer. To our knowledge, this complication has not been reported in association with the use of this technique.

Recurrent nasopharyngeal carcinoma presenting as diffuse dermal lymphatic infiltration in the neck: three case reports. Leong, S. S., Tan, E. H., Khoo-Tan, H. S., Yang, T. L., Wee, J., Tan, S. H., Poh, W. T., Tan, N. G. Department of Medical Oncology, National Cancer Centre, Singapore. dmo1ss@nccs.com.sg. *Head and Neck* (2001) February, Vol. 23 (2), pp. 160–5.

BACKGROUND: Any malignancy has the propensity to metastasize to skin. The frequency of skin metastases vary in different tumours and occur in about 0.7 to 10 per cent of all patients diagnosed with cancer. It is rare in nasopharyngeal carcinoma. **METHOD:** Three cases of relapsed nasopharyngeal carcinoma with diffuse dermal involvement were described. Their clinical presentation, results of investigations, and response to treatment were reviewed. Literature review of similar forms of presentation was done by means of a MEDLINE search. **RESULTS:** At the time of dermal relapse, all three patients had a uniform clinical picture of facial, periorbital, and lip swelling associated with stridor and dysphagia. Histologic findings showed dermal infiltrates or malignant cells, and CT scan showed diffuse infiltration of the subcutaneous tissue. Despite chemotherapy, the clinical course was relentless. **CONCLUSION:** This report describes a presentation of disease that is underdiagnosed and heightens awareness of oncologists to this form of recurrence in nasopharyngeal carcinoma.

A biochemical model of peripheral tinnitus. Sahley, T. L., Nodar, R. H. Departments of Speech and Hearing, Cleveland State University, Main Classroom Building, Room 431, 1899 East 22nd Street, Cleveland, OH 44115, USA. tsahley@csuohio.edu. *Hearing Research* (2001) February, Vol. 152 (1–2), pp. 43–54.

Subjective tinnitus may be defined as the perceptual correlate of altered spontaneous neural activity occurring in the absence of an externally evoking auditory stimulus. Tinnitus can be caused or exacerbated by one or more of five forms of stress. We propose and provide evidence supporting a model that explains, but is not limited to, peripheral (cochlear) tinnitus. In this model, naturally occurring opioid dynorphins are released from lateral efferent axons into the synaptic region beneath the cochlear inner hair cells during stressful episodes. In the presence of dynorphins, the excitatory neurotransmitter glutamate, released by inner hair cells in response to stimuli or (spontaneously) in silence, is enhanced at cochlear (N-methyl-D-aspartate (NMDA) receptors. This results in altered neural excitability and/or an altered discharge spectrum in (modiolar-oriented) type I neurons normally characterized by low rates of spontaneous discharge and relatively poor thresholds. It is also possible that chronic exposure to dynorphins leads to auditory neural excitotoxicity via the same receptor mechanism. Finally, the proposed excitatory interactions of dynorphins and glutamate at NMDA receptors need not be restricted to the auditory periphery.

Detection and localization of interleukin-6 in the rat middle ear during experimental acute otitis media, using mRNA in situ hybridization and immunohistochemistry. Forseni, M., Melhus, A., Ryan, A. F., Bagger-Sjoebaek, D., Hultcrantz, M. Department of Otorhinolaryngology, Karolinska Hospital, Karolinska Institute, 171 76 Stockholm, Sweden. marie.forseni@ood.ki.se. *International Journal of Pediatric Otorhinolaryngology* (2001) February, Vol. 57 (2), pp. 115–21.

OBJECTIVE: Otitis media is one of the most common diseases among children. A well-known sequela of acute, chronic, and secretory otitis media is tympanosclerosis. With the exception of surgery, there is no causal treatment available for this condition, which may cause hearing disabilities. This study aimed to describe the localization of interleukin (IL)-6 mRNA and its gene product in the rat middle ear during pneumococcal otitis media. IL-6 is known to be involved in inflammatory and bone remodelling processes. **METHODS:** Using an experimental model of pneumococcal acute otitis media, the expression of interleukin IL-6, was analysed. Sprague-Dawley rats were sacrificed at different

time points varying from one hour to six days intervals after inoculation. The middle ears were analysed by messenger RNA in situ hybridization, and by immunohistochemistry with cell-type specific antibodies directed against IL-6. **RESULTS:** Transcripts of IL-6 were observed only on day one post-inoculation, whereas the final gene product was observed at all intervals after inoculation. IL-6 was localized in the bony part of the bulla nearest to the mucosa, around mucosal vessels, and in the ciliae of the mucosal epithelium. The results demonstrated that IL-6 was synthesized locally as early as one hour after bacterial middle ear challenge, and that although transcription could not be detected after 24 h, the cytokine product persisted for at least five days after the infection was introduced. **CONCLUSIONS:** IL-6 was shown to be produced early in the inflammatory process during induced pneumococcal otitis media in the rat. No production was seen after 24 h although the protein remained in the tissue for at least five days. IL-6 could initiate a differentiation of macrophages to osteoclasts and thereby participate in a bone remodelling process leading to tympanosclerosis development.

Laryngeal chondrosarcoma: a 24-year experience at the Royal National Throat, Nose and Ear Hospital. Rinaldo, A., Howard, D. J., Ferlito, A. Department of Otolaryngology – Head and Neck Surgery, University of Udine, Italy. *Acta Oto-Laryngologica* (2000) September, Vol. 120 (6), pp. 680–8.

This paper presents a review of the experience of 12 patients with chondrosarcoma of the larynx treated at The Royal National Throat, Nose and Ear Hospital, London, over the last 24 years. This represents the largest European series and the third largest in the world. Chondrosarcoma is the most frequent non-epithelial malignant tumour of the larynx, with 83.3 per cent of cases arising from the cricoid cartilage in our series. We have shown that deep wedge biopsy with a CO₂ laser, aided by computerized tomography scanning, gives the most reliable diagnosis. Laryngeal chondrosarcoma is characterized by indolent growth, a potential for local recurrence and, infrequently, by metastases. The treatment details of our patients are discussed. Adequate partial resection is often successful and use of CO₂ laser as the initial treatment in five of these cases is presented.

Auditory dysfunction in stroke. Haeusler, R., Levine, R. A. Department of ENT, Head and Neck Surgery, Inselspital, University of Berne, Switzerland. *Acta Oto-Laryngologica* (2000) September, Vol. 120 (6), pp. 689–703.

The auditory and vestibular systems share the same end organ and cranial nerve, yet vestibular signs and symptoms are common with stroke, whereas hearing disturbances are much less frequent. Several reasons would appear to account for this striking dissimilarity. One is that the auditory pathway is less ubiquitous than the vestibular pathways. The likelihood that a stroke involves the auditory pathway is, therefore, less on this basis alone. A second difference, to our knowledge not previously reported, is that the auditory pathway is often spared by the most common strokes. This is because major parts of the auditory pathway, such as the cochlear nucleus, inferior colliculus and medial geniculate body, have multiple sources of blood supply. A third well-recognized factor is the redundancy of the central auditory system and its strong bilateral representation above the level of the cochlear nuclei. Consequently, rostral to the cochlear nuclei gross deficits in hearing, such as those measured by standard pure-tone audiometry and speech discrimination, only occur if lesions are bilateral. Furthermore, widespread bilateral lesions of the auditory system typically render the patient unable to respond or are incompatible with life. In contrast, language disorders are more frequent because language is usually unilaterally represented in the cortex. Certainly, cerebral stroke often includes the auditory system, resulting in various types of auditory disorders, but most hemispherical lesions produce subtle hearing dysfunctions that can only be detected with sophisticated psychoacoustic and electrophysiological testing. The purpose of this review is to provide an overview of the auditory system and its blood supply and to review how auditory processing can be affected by stroke. Psychoacoustic and electrophysiological test procedures for identifying lesions in the central auditory system are described. The literature of hearing disorders due to stroke is reviewed and illustrative cases are presented.

Preoperative virtual endoscopy and three-dimensional imaging of the surface landmarks of the internal carotid arteries in transsphenoidal pituitary surgery. Talala, T., Pirilae, T., Karhula, V., Ilkko, E., Suramo, I. Department of Diagnostic Radiology, University Hospital of Oulu, Finland. *Acta Oto-Laryngologica* (2000) September, Vol. 120 (6), pp. 783–7.

In trans-sphenoidal pituitary adenoma surgery the sella turcica is opened between the internal carotid arteries. Three-dimensional image processing methods were applied in this study to avoid the risk of damaging the arteries during the opening of the anterior wall of the sella. By using graphical software it was possible to combine the anatomies of the carotid arteries and the sellar wall into one non-perspective three-dimensional image. With a perspective image (virtual endoscopy), the sphenoid sinus landmarks were presented as if looking through a nasoendoscopy. This also facilitated preoperative planning but the non-perspective images, with the carotid arteries marked, were found to be the most useful and suitable for clinical routine. The pituitary tumour itself and its relations with the adjacent structures were best evaluated from magnetic resonance imaging scans but, for the opening of the sellar wall and in the three-dimensional orientation with endoscopy, three-dimensional computerized tomography imaging with the carotid arteries marked was found to be helpful.

Unpredictable hearing loss after intratympanic gentamicin treatment for vertigo. A new theory. Walsted, A. Department of Otorhino-laryngology, Glostrup County Hospital, Denmark. *Acta oto-Laryngologica* (2001) January, Vol. 121 (1), pp. 42–4.

A new hypothesis is advanced suggesting that unpredictable cases of profound hearing loss after intratympanic gentamicin treatment (IGT) may be caused by decreased patency of the communication routes between the inner ear and the cerebrospinal fluid, primarily of the cochlear aqueduct. A tympanic displacement analyser, which can indirectly analyse inner ear and intracranial pressure changes and can also evaluate the efficiency of communication between these two compartments, was used. Two cases are presented: in the first, a patient who became deaf after IGT showed signs of decreased patency of the communication routes with the tympanic membrane displacement (TMD) test; in the second, a patient without hearing damage after IGT had efficient communication evaluated by the TMD test. These preliminary findings are in accordance with the proposed pathophysiology. If future clinical studies confirm the present theory and findings, it may prove possible to predict and prevent deafness after IGT and possibly also after systemic aminoglycoside treatment.

Evidence-based surgery in chronic rhinosinuitis. Lund, V. J. Institute of Laryngology Otolaryngology, University College, London, UK. v.lund@ucl.ac.uk. *Acta Oto-Laryngologica* (2001) January, Vol. 121 (1), pp. 5–9.

Considerable interest has been focused in recent years on an evidence-based approach to clinical medicine. For obvious reasons, however, it has proved difficult to examine the benefit of surgical procedures in randomized, double-blind, placebo-controlled trials. This review considers the evidence available in the literature for surgery in chronic rhinosinuitis and examines the validity of the studies in the context of evidence-based medicine.

Quality of life of vestibular schwannoma patients after surgery. Inoue, Y., Ogawa, K., Kanzaki, J. Department of Otolaryngology, School of Medicine, Keio University, Tokyo, Japan. yas712@mc.med.keio.ac.jp. *Acta Oto-Laryngologica* (2001) January, Vol. 121 (1), pp. 59–61.

The quality of life of vestibular schwannoma (VS) patients after surgery was investigated. The subjects consisted of 236 unilateral VS patients who underwent tumour removal between 1990 and 1997. A questionnaire was sent to all patients regarding their hearing, tinnitus, dizziness and the changes in their daily life after surgery; 176 out of 204 patients (86 per cent) who received the questionnaire completed and returned it. The answers were compared with recent data reported in other clinical studies. Ninety per cent of the patients with postoperative class A hearing were satisfied with their hearing. However, only 30 per cent of patients with postoperative class B hearing were satisfied. Tinnitus worsened after surgery more often in patients who underwent a labyrinthectomy than in those who did not. Dizziness improved

after surgery in the majority of VS patients. However, 30 per cent of patients had difficulty driving a car and 50 per cent of patients could not enjoy activities such as playing sport after surgery.

Symptoms, findings and treatment in patients with dehiscence of the superior semicircular canal. Brantberg, K., Bergenius, J., Mendel, L., Witt, H., Tribukait, A., Ygge, J. Department of Audiology, Karolinska Hospital, Huddinge Hospital, Stockholm, Sweden. kbr@ent.ks.se. *Acta Oto-Laryngologica* (2001) January, Vol. 121 (1), pp. 68–75.

Recently Minor and co-workers described patients with sound- and pressure-induced vertigo due to dehiscence of the superior semicircular canal. Identifying patients with this 'new' vestibular entity is important, not only because the symptoms are sometimes very incapacitating, but also because they can be treated. We present symptoms and findings in eight such patients, all of whom reported pressure-induced vertigo that increased during periods of upper respiratory infections. Pulse-synchronous tinnitus and gaze instability during head movements were also common complaints. All patients lateralized Weber's test to the symptomatic ear. In some of the patients the audiogram also revealed a small conductive hearing loss. However, the stapedius reflexes were always normal. A vertical/torsional eye movement related to the superior semicircular canal was seen in most of the patients in response to pressure changes and/or sound stimulation. One patient also had superior canal-related positioning nystagmus. Testing vestibular evoked myogenic potentials revealed in all patients a vestibular hypersensitivity to sounds. In the coronal high-resolution 1 mm section CT scans the dehiscence was visible on one to four sections. Moreover, the skull base was rather thin in this area and cortical bone separating the middle ear and the antrum from the middle cranial fossa was absent in many of the patients. Two of the patients have undergone plugging of the superior semicircular canal using a transmastoid approach and both patients were relieved of the pressure-induced symptoms.

One stage carotid artery resection: reconstruction in radiated head and neck carcinoma. Jacobs, J. R., Korkmas, H., Marks, S. C., Kline, R., Berguer, R. Wayne State University School of Medicine, Department of Otolaryngology Head and Neck Surgery, Detroit, MI 48201, USA. *American Journal of Otolaryngology* (2001) May-June, Vol. 22 (3), pp. 167–71.

PURPOSE: Management of the carotid artery involved with metastatic squamous cell carcinoma continues to be a topic of much discussion. Early reports, for the most part, focused on the sequel of litigation and the development of various tests to predict patient tolerance for the procedure. More recent alternatives have described resection reconstruction in multistage procedures. By using immediate reconstruction with autogenous arterial grafting, carotid artery resection can be accomplished in patients with radiation failure in a single stage. This technique can be used without the addition of myocutaneous flaps, controlled fistulas, or intracranial surgery advocated for usage with alternative techniques. **PATIENTS AND METHODS:** Immediate reconstruction after resection of the carotid artery with superficial femoral arterial graft is described. **RESULTS:** In a series of 18 high-risk patients with radiation failure, the artery was successfully resected and reconstructed in one stage without any neurologic or vascular complications. The technique has been associated with prolonged survival in selected patients. **CONCLUSION:** Carotid artery resection and immediate reconstruction can be performed in high-risk radiation failure patients with acceptable complications, and is associated with prolonged survival in selected cases.

Long-term results of radiation therapy for juvenile nasopharyngeal angiofibroma. Reddy, K. A., Mendenhall, W. M., Amdur, R. J., Stringer, S. P., Cassisi, N. J. Department of Radiation, Oncology, University of Florida College of Medicine, Gainesville, FL, USA. *American Journal of Otolaryngology* (2001) May-June, Vol. 22 (3), pp. 172–5.

PURPOSE: To analyse 15 patients treated with radiation therapy for juvenile nasopharyngeal angiofibroma (JNA) between June 1975 and March 1996. **MATERIALS AND METHODS:** All patients had advanced disease (Chandler stage III or stage IV); two thirds of the patients had intracranial extension. **RESULTS:** Local control after radiotherapy was obtained in 13 of 15 patients (85 per cent). Two patients had local recurrences, and both were salvaged with

surgery for an ultimate local control rate of 100 per cent. Late complications included cataracts in three patients, delayed transient central nervous system (CNS) syndrome in one patient, and a basal cell carcinoma of the skin in one patient. Of 15 patients, 13 (85 per cent) had a complete response (CR) on physical examination following radiation therapy. The median time to CR was 13 months (range, one to 39 months). Of six patients with residual disease in more than 24 months, two (33 per cent) had a recurrence, whereas no patient achieving CR in less than 24 months experienced a recurrence. **CONCLUSIONS:** Radiotherapy is an effective treatment for advanced JNA. Tumour regression usually occurs slowly over several months. JNAs that are slow to regress (greater than two years) may have an increased risk of recurrence.

The effects of noise on the vestibular system. Golz, A., Westerman, S. T., Westerman, L. M., Goldenberg, D., Netzer, A., Wiedmyer, T., Fradis, M., Joachims, H. Z. Department of Otolaryngology – Head and Neck Surgery, Rambam Medical Center, Haifa, Israel. *American Journal of Otolaryngology* (2001) May-June, Vol. 22 (3), pp. 190–6.

PURPOSE: Subjects with noise-induced hearing loss sometimes also complain about balance disorders, but reports of clinical series that give contradictory results are highly controversial. This study was designed to evaluate the effects of intense noise on the vestibular labyrinth, both in subjects with symmetrical hearing loss and in subjects with asymmetrical loss, and to examine the correlation between the subjects' complaints and the results of the vestibular function tests. **METHODS:** A total of 258 male military personnel, heavily exposed to various intense noises, were included in the study. They were divided into two groups according to their hearing; 134 had a symmetrical high-tone hearing loss, and 124 had asymmetrical losses. Each group was divided into two subgroups according to the presence or absence of vestibular complaints. All of the subjects underwent a complete audiological and electronystagmographic evaluation. **RESULTS:** We found that vestibular damage caused by intense noise exposure might be expressed clinically in subjects with asymmetrical hearing loss. There was a strong correlation between the

subjects' complaints and the results of the vestibular function tests. There was no correlation between the severity of the hearing loss and the vestibular symptomatology and pathology. **CONCLUSIONS:** Subjects exposed to intense noise may have evidence of vestibular pathology only when there is an asymmetrical hearing loss. Whenever hearing loss is symmetrical, an equal damage to the vestibular system of both ears is most probably responsible for the absence of abnormal findings on the vestibular function tests. The results of this study have important medicolegal implications for individuals exposed to intense noises.

Behaviour and developmental effects of otitis media with effusion into the teens. Bennett, K. E., Haggard, M. P., Silva, P. A., Stewart, I. A. MRC Institute of Hearing Research, University Park, Nottingham, UK. kbennett@stjames.ie. *Archives of Disease in Childhood* (2001) August, Vol. 85 (2), pp. 91–5.

OBJECTIVE: To examine whether behavioural or cognitive sequelae of otitis media with effusion (OME) continue into late childhood and the early teens (11–18 years). **SETTING:** Data from a large multipurpose birth cohort study: the Dunedin multidisciplinary health and development study. **PARTICIPANTS:** Around 1000 children from the study. The main independent variable of interest was otological status of the child up to age nine. **MAIN OUTCOME MEASURES:** Parent and teacher rated behaviour problems, including antisocial, neurotic, hyperactive and inattentive behaviours, and tests of academic achievement including intelligence quotient (IQ), reading, and spelling were available in a high proportion of the cohort at ages 11 to 18 years. **RESULTS:** After adjustments for covariates such as socioeconomic status, hyperactive and inattentive behaviour problems were evident as late as 15 years, and lower IQ associated with OME remained significant to 13 years. The largest effects were observed for deficits in reading ability between 11 and 18 years. **CONCLUSIONS:** No previous study considering behaviour problems as an outcome has followed children long enough to determine whether some of the early sequelae of OME are still present in the early to late teens. Some developmental sequelae of OME, particularly deficits in reading ability, can persist into late childhood and the early teens.