

## Abstract Selection

**Can an antihistamine delay appearance of hay fever symptoms when given prior to pollen season?** Stern, M. A., Darnell, R., Tudor, D. Asthma and Allergy Research Unit, Leicester General Hospital, UK. *Allergy* (1997) April, Vol. 52 (4), pp. 440–4.

Mizolastine is a new, nonsedating antihistamine providing satisfactory symptom relief in allergic conditions. The purpose of this study was to determine whether the onset of hay fever symptoms could be delayed in patients known to suffer seasonal allergic rhinoconjunctivitis symptoms if mizolastine was given before the pollen season. This double-blind study involved 342 patients, randomly allocated to once-daily 10 mg mizolastine ( $n = 115$ ), once-daily 120 mg terfenadine ( $n = 116$ ), or placebo ( $n = 111$ ) groups. All patients started treatment on 1 May, before the onset of the grass pollen season. The prophylactic effect of test drugs was assessed on their ability to delay the time to the first hay fever crisis of the season, which was defined by the occurrence of one of the following events: use of rescue medication, study withdrawal because of treatment failure, or total diary symptom score over 18. Active treatments prolonged the time to the first crisis by approximately one week (mizolastine 55 days, terfenadine 57 days) in comparison with placebo (50 days) (survival curve analysis: Logrank test,  $p = 0.01$ ; Wilcoxon test,  $p = 0.03$ ). Tolerability was satisfactory and comparable between groups. Thus, mizolastine can be safely used to delay and to treat symptoms of seasonal allergic rhinitis. Author.

**ORG 9487 neuromuscular block at the adductor pollicis and the laryngeal adductor muscles in humans.** Debaene, B., Lieutaud, T., Billard, V., Meistelman, C. Department of Anesthesia, Institut Gustave Roussy, Villejuif, France. *Anesthesiology* (1997), June, Vol. 86 (6), pp. 1300–5.

**BACKGROUND:** ORG 9487 is a new steroidal nondepolarizing muscle relaxant with a rapid onset of action. This study was designed to determine the neuromuscular blocking profile of ORG 9487 at the adductor muscles of the larynx and the adductor pollicis. **METHODS:** In 30 adults, anesthesia was induced with propofol (2–5 mg/kg) and fentanyl (2–3 microg/kg). After train-of-four stimulation, the block of the laryngeal adductor muscles was evaluated by measuring the pressure changes in the cuff of the tracheal tube placed between the vocal cords, and the force of the contraction of the adductor pollicis was measured with a force transducer. Patients were randomly allocated to receive ORG 9487 at intravenous bolus doses of 0.75, 1.5 or 2 mg/kg ( $n = 10$  in each group). **RESULTS:** Time to peak effect was significantly shorter at the vocal cords than at the adductor pollicis muscle ( $p < 0.001$ ). Onset time at the vocal cords was  $62 \pm 16$  s,  $62 \pm 13$  s, and  $52 \pm 14$  s (mean  $\pm$  SD) after doses of 0.75, 1.5, and 2 mg/kg, respectively (not significant). Onset time at the adductor pollicis muscle was  $126 \pm 33$  s,  $96 \pm 20$  s, and  $82 \pm 21$  s after 0.75, 1.5, and 2 mg/kg doses, respectively ( $p < 0.001$ ). Maximum block was significantly less intense at the vocal cords than at the adductor pollicis muscle ( $69 \pm 15$  per cent vs.  $94 \pm$  four per cent after 0.75 mg/kg;  $86 \pm$  seven per cent vs.  $97 \pm$  four per cent after 1.5 mg/kg; and  $91 \pm$  five per cent vs.  $99 \pm$  one per cent after 2 mg/kg). After 1.5 mg/kg duration to 25 per cent, recovery was  $3.7 \pm 2.2$  min versus  $10.2 \pm 2.5$  min at the vocal cords and the adductor pollicis muscle, respectively, and 75 per cent recovery occurred at  $9.7 \pm 3.7$  min at the vocal cords and at  $18.3 \pm 5.2$  min at the adductor pollicis muscle. **CONCLUSIONS:** ORG 9487 has a rapid onset of action at the laryngeal adductor and the adductor pollicis muscles. Onset and duration of action are faster at the vocal cords than at the adductor pollicis muscle. However, the maximum block obtained at the laryngeal muscles was less than at the adductor pollicis, regardless of the dose of ORG 9487. Author.

**Airway fluoroscopic diagnosis of vocal cord dysfunction syndrome.** Nastasi, K. J., Howard, D. A., Raby, R. B., Lew, D. B., Blaiss, M. S. Department of Pediatrics, University of Tennessee, Memphis, USA. *Annals of Allergy in Asthma Immunology* (1997), June, Vol. 78 (6), pp. 586–8.

**BACKGROUND:** Vocal cord dysfunction syndrome is often misdiagnosed as refractory asthma. Airway fluoroscopy has recently been proposed as an alternative to laryngoscopy in the initial evaluation of certain cases of suspected vocal cord dysfunction. **OBJECTIVE:** To evaluate the use of airway radiographs and fluoroscopy in a patient with suspected vocal cord dysfunction. **METHODS:** We used soft tissue technique airway radiographs and fluoroscopy to evaluate the glottic function during inspiration and expiration in a nine-year-old boy with refractory asthma and suspected vocal cord dysfunction. **RESULTS:** The study confirmed paradoxical vocal cord motion. **CONCLUSIONS:** Airway radiographs and fluoroscopy provide a rapid and noninvasive means of diagnosing vocal cord dysfunction. Patients should still have laryngoscopy performed at the earliest possible moment to rule out the possibility of other laryngeal abnormalities. Author.

**Use of Mitek suture anchors in head and neck reconstruction.** Dzwierzynski, W. W., Sanger, J. R., Larson, D. L. Department of Plastic and Reconstructive Surgery, Medical College of Wisconsin, Milwaukee 53226, USA. *Annals of Plastic Surgery* (1997), May, Vol. 38 (5), pp. 449–54.

Attachment of soft tissue to bone is a common problem encountered in head and neck reconstruction. Soft-tissue attachment is encountered in the formation of slings to recreate oral competence. We report the use of the Mitek suture anchor in seven head and neck reconstruction patients (five underwent an attachment of a tensor fascia lata sling for oral competence and two underwent an attachment of a gracilis musculocutaneous free flap to recreate facial symmetry). Use of the Mitek anchor facilitates soft-tissue-to-bone attachment. Minimal dissection is required and secure bony fixation is obtained. Author.

**Subdural empyema resulting from displacement of a root into the maxillary antrum.** Woolley, E. J., Patel, M. University of Liverpool. *British Dentistry Journal* (1997), June 14, Vol. 182 (11), pp. 430–2.

Subdural empyema is a rare but serious complication of paranasal sinusitis which may result in death or permanent disability in a significant proportion of cases. A case is presented in which displacement of a premolar root in the maxillary sinus led to a subdural empyema and a resultant left-sided hemiplegia. This case illustrates the necessity of early surgical intervention to remove displaced roots in the maxillary antrum in order to prevent the serious complications of paranasal sinusitis. Author.

**Granulomatous contact dermatitis due to gold earrings.** Armstrong, D. K., Walsh, M. Y., Dawson, J. F. Department of Dermatology, Belfast City Hospital, Northern Ireland. *British Journal of Dermatology* (1997), May, Vol. 136 (5), pp. 776–8.

A young female developed persistent nodules at sites of ear piercing with gold earrings and patch testing demonstrated a positive allergic response to gold sodium thiosulphate. Histological examination of the nodules demonstrated a prominent sarcoidal-type granulomatous tissue reaction. This is in contrast to previous reports of lymphocytoma cutis type histology and was associated with the occurrence of epithelioid granulomata at the site of a strongly positive and long-lasting patch-test reaction. Author.

**A randomized controlled trial of antibiotics on symptom resolution in patients presenting to their general practitioner with a sore throat.** Howe, R. W., Millar, M. R., Coast, J., Whitfield, M., Peters,

T. J., Brookes, S. Department of Social Medicine, University of Bristol. *British Journal of Genetic Practice* (1997), May, Vol. 47 (418), pp. 280–4.

**BACKGROUND:** Sore throat is a common symptom presented to general practitioners (GPs), and there remains controversy about the appropriate use of antibiotics. **AIM:** To compare, in a randomized controlled trial, the effectiveness of penicillin, cefixime and placebo on symptom resolution in patients presenting with a sore throat in general practice. **METHOD:** Twenty-two GPs in Avon recruited 154 patients, aged 16–60 years, presenting to their GP with a sore throat, and for whom the GP would normally prescribe an antibiotic. Patients were randomized to one of three groups: penicillin V 250 mg four times a day; cefixime 200 mg daily; and placebo. Each was prescribed for five days. The main outcome measures were a diary of symptom resolution over seven days and eradication of group A beta-haemolytic streptococcus (GABHS). **RESULTS:** Of the 103 (67 per cent) patients who completed symptom diaries, 40 were allocated to receive penicillin, 29 cefixime and 34 placebo. In the analysis including all patients, symptom resolution was greater by day three in the cefixime group than in the placebo group. Penicillin did not improve symptom resolution by day three compared with placebo, and cefixime was not statistically significantly different from penicillin. There were significant differences in the proportion of patients using analgesia at day three, with the proportion being lowest in the cefixime group. The results for the subgroup of patients without GABHS were similar to those for all patients; in particular, the only statistically significant difference was between cefixime and placebo. Although numbers were too small for statistical significance, among patients with GABHS the effects of penicillin and cefixime were similarly raised in relation to placebo. **CONCLUSION:** Compared with placebo, cefixime can improve the rate of resolution of symptoms in patients with a sore throat who are selected for antibiotic treatment by their GP. The unexpected finding that cefixime was of benefit compared with placebo for patients without GABHS suggests that bacteria other than GABHS may be important in the pathogenesis of sore throat. Author.

**Topical azelastine has a 12-hour duration of action as assessed by histamine challenge-induced exudation of alpha 2-macroglobulin into human nasal airways.** Greiff, L., Andersson, M., Svensson, C., Persson, C. G. Department of Otorhinolaryngology, Lund University Hospital, Sweden. *Clinical Experiments for Allergy* (1997), April, Vol. 27 (4), pp. 438–44.

**BACKGROUND:** Oral antihistamine drugs are widely used in the treatment of seasonal allergic rhinitis. Recently, anti-histamines have become available also for topical treatment. **OBJECTIVE:** The present study, involving healthy subjects, examined the effect of topical azelastine on luminal entry of alpha 2-macroglobulin and symptoms evoked by repeat histamine challenges during 24 h. The effect was compared to a clinical dose of the oral antihistamine cetirizine and to placebo treatments. **METHODS:** Placebo and azelastine (0.254 mg per nasal cavity) were delivered as two consecutive actuations per nasal cavity using a nasal spray device. Oral placebo and cetirizine (10 mg) were given as single doses in a placebo-controlled (double-dummy), double-blind, and cross-over design. Histamine-challenges were given 1 h before treatment, and 1, 6, 9, 12 and 24 h after each treatment. The nasal mucosal surface was lavaged after each challenge. The lavage-fluid levels of alpha 2-macroglobulin were determined to assess mucosal exudation of bulk plasma, and nasal symptoms were scored. **RESULTS:** Histamine (40–400 micrograms/mL) produced dose-dependent exudation and symptoms. Compared between each treatment and placebo, azelastine and cetirizine reduced the 40 and/or 400 micrograms/mL histamine-induced mucosal exudation of plasma from 1–12 h after treatment. In addition, cetirizine reduced the 40 micrograms/mL histamine-induced mucosal exudation of plasma 24 h after treatment. Differences between the two treatments were not evident regarding nasal symptoms. **CONCLUSION:** Histamine challenge-induced mucosal exudation of plasma appears to be a useful method for studies of the duration of action of antihistamines. We conclude that topical azelastine is suited for b.i.d. therapy and that neither the exudative process nor watery secretion may impede the efficacy or the duration of action of this nasal drug. Author.

**Vocal cord paralysis and cystic kidney disease in Hajdu-Cheney syndrome.** Fryns, J. P., Stinckens, C., Feenstra, L. Centre for Human Genetics, University of Leuven, Belgium. *Clinical Genetics* (1997), April, Vol. 51 (4), pp. 271–4.

In this report we describe the clinical history and symptoms in a 36-year-old male with Hajdu-Cheney syndrome, an autosomal dominant condition with dissolution of the terminal phalanges (acro-osteolysis), characteristic craniofacial dysmorphism, and musculoskeletal alterations. He was admitted at that age because of progressive respiratory problems, with Cheyne-Stokes respiration and bilateral vocal cord paralysis. Terminal renal failure with cystic renal disease was diagnosed at the age of 14 years. The findings in the present patient illustrate the risk of progressive neurologic degeneration with involvement of the cranial nerves in patients with Hajdu-Cheney syndrome. Moreover, we confirm that cystic renal changes are an integral part of Hajdu-Cheney syndrome, and agree that Hajdu-Cheney syndrome and Serpentine fibula syndrome are probably variant examples of the same disease. Author.

**Transtympanic myringoplasty in children.** Srinivasan, V., Toynton, S. C., Mangat, K. S. Department of Otolaryngology, James Paget Hospital, Great Yarmouth, UK. *International Journal of Pediatric Otorhinolaryngology* (1997), April 11, Vol. 39 (3), pp. 199–204.

Our experience with myringoplasty by the transtympanic 'push through' technique in paediatric patients is described. We have used this method in 40 children utilizing autologous temporalis fascia as the graft material. The procedures were all performed as day cases under general anaesthesia. The overall success rate for perforation closure was 77.5 per cent at six months which is comparable to conventional methods. We conclude that the 'push through' technique is a safe, simple, reliable and cost-effective procedure that can be performed as a day case in paediatric patients. It avoids the necessity for pressure bandaging or formal ear packing. To our knowledge this is the first paper evaluating this technique in children. Author.

**Interleukin-8 and chemotactic activity of middle ear effusions.** Storgaard, M., Larsen, K., Blegvad, S., Nodgaard, H., Ovesen, T., Andersen, P. L., Obel, N. Department of Medicine and Infectious Diseases, Marselisborg Hospital, Aarhus, Denmark. *Journal of Infectious Diseases* (1997), February, Vol. 175 (2), pp. 474–7.

The importance of interleukin (IL)-8 in the chemotactic activity of middle ear effusions (MEEs) was evaluated. There was a significantly higher IL-8 concentration in MEEs of children with acute otitis media (AOM) ( $n = 17$ ; 136 ng/mL) than in children with otitis media with effusion (OME) ( $n = 28$ ; 65 ng/mL). The IL-8 concentration in MEEs with bacteria (149 ng/mL) was significantly higher than in MEEs without bacteria (66 ng/mL). MEEs from children with AOM and OME had equally higher chemotactic activity than the diluent alone (23.3 per cent and 24.8 per cent vs. 9.2 per cent). The chemotactic activity was not altered by the presence of bacteria nor did it correlate with IL-8 concentration. Fractionation of MEEs by gel chromatography demonstrated that the main chemotactic activity could clearly be separated from the IL-8 activity, thus excluding IL-8 as a main chemotactic component in MEEs. Author.

**Facial nerve injury in acoustic neuroma (vestibular schwannoma) surgery: etiology and prevention.** Sampath, P., Holliday, M. J., Brem, H., Niparko, J. K., Long, D. M. Department of Neurological Surgery, The Johns Hopkins Hospital, Baltimore, Maryland 21287–7709, USA. *Journal of Neurosurgery* (1997), July, Vol. 87 (1), pp. 60–6.

Facial nerve injury associated with acoustic neuroma surgery has declined in incidence but remains a clinical concern. A retrospective analysis of 611 patients surgically treated for acoustic neuroma between 1973 and 1994 was undertaken to understand patterns of facial nerve injury more clearly and to identify factors that influence facial nerve outcome. Anatomical preservation of the facial nerve was achieved in 596 patients (97.5 per cent). In the immediate postoperative period, 62.1 per cent of patients displayed normal or near-normal facial nerve function (House-Brackmann Grade 1 or 2). This number rose to 85.3 per cent of patients at six months after surgery and by one year, 89.7 per cent of patients who had undergone acoustic neuroma surgery demonstrated normal or near-normal facial nerve function. The surgical approach appeared to have no effect on the incidence of

facial nerve injury. Poor facial nerve outcome (House-Brackmann Grade 5 or 6) was seen in 1.58 per cent of patients treated via the suboccipital approach and in 2.6 per cent of patients treated via the translabyrinthine approach. When facial nerve outcome was examined with respect to tumour size, there clearly was an increased incidence of facial nerve palsy seen in the immediate postoperative period in cases of larger tumours: 60.8 per cent of patients with tumours smaller than 2.5 cm had normal facial nerve function, whereas only 37.5 per cent of patients with tumours larger than 4 cm had normal function. This difference was less pronounced, however, six months after surgery, when 92.1 per cent of patients with tumours smaller than 2.5 cm had normal or near normal facial function, versus 75 per cent of patients with tumours larger than 4 cm. The etiology of facial nerve injury is discussed with emphasis on the pathophysiology of facial nerve palsy. In addition, on the basis of the authors' experience with these complex tumours, techniques of preventing facial nerve injury are discussed. Author.

**Characteristics of incompletely excised basal cell carcinomas of the skin.** Rippey, J. J., Rippey, E. Department of Anatomical Pathology, West Australian Centre for Pathology, Perth. *Medical Journal of Australia* (1997), June 2, Vol. 166 (11), pp. 581-3.

**OBJECTIVES:** To determine the proportion of basal cell carcinomas (BCCs) treated by excision biopsy that extended to the margins of surgical excision (incompletely excised tumours) and to identify their characteristics. **DESIGN:** Case series of BCCs submitted to a single pathologist in the first six months of 1995. **SETTING:** Rural and metropolitan (Perth) Western Australia. **PATIENTS:** 268 patients with 353 histologically confirmed BCCs. **OUTCOME MEASURES:** Age and sex of patients; discipline of referring doctor; anatomical site of BCC; macroscopic features; histological growth pattern; and completeness of excision. **RESULTS:** Sixteen per cent of BCCs (58/353) extended to the margin of surgical excision. Most of these were situated on the head or neck (43/58; 74 per cent) and were flat (47/58; 81 per cent); a high proportion of incompletely excised BCCs (21/58; 36 per cent) had an infiltrative growth pattern. Recurrent BCCs (28/353; eight per cent), categorized from the history or because of histologically identified surgical scarring, were even more likely to be flat (26/28; 93 per cent) and to show a microscopic infiltrative growth pattern (18/28; 64 per cent). Seven of the 28 (25 per cent) recurrent BCCs were incompletely excised; all seven were on the head and five had an infiltrative growth pattern. **CONCLUSION:** Incompletely excised BCCs are those most likely to recur. Because most recurrent tumours are situated on the head and neck and have an infiltrative growth pattern, we recommend that: Pathologists report on the microscopic growth pattern of BCCs as well as on completeness of excision. Clinicians attempt to excise head and neck BCCs with wide margins initially, where possible. Tumours extending to the margin of excision which are infiltrative in pattern and located on the head and neck may be particularly likely to recur, and immediate re-excision should be considered in these patients. Author.

**Management of vestibular schwannomas (acoustic neuromas): the value of neurophysiology for evaluation and prediction of auditory function in 420 cases.** Matthies, C., Samii, M. Department of Neurosurgery, Nordstadt Hospital, Hannover, Germany. *Neurosurgery* (1997), May, Vol. 40 (5), pp. 919-29; discussion 929-30. **OBJECTIVE:** From 1978 to 1993, 1,000 vestibular schwannomas were operated on at the Department of Neurosurgery at Nordstadt Hospital. The goal was to improve the chances of hearing preservation by recording auditory brain stem responses (ABRs). ABRs can be used for preoperative classification of cochlear nerve impairment and for prediction of the chances of hearing preservation. **PATIENTS AND METHODS:** In addition to the previously described audiometric testing, the patients underwent perioperative and intraoperative bilateral ABR recording at 100-dB condensation and rarefaction click stimulation. The classification system of five types of ABRs, as presented before, is based on the presence and on the latencies of Waves I, III, and V, with a special emphasis on Wave III's representing the activity of the first brain stem nuclei within the auditory pathway. According to an analysis of 420 preoperative ABRs, in case of a preoperative Type 1 or 2, the rate of hearing preservation is 80 per cent. **DISCUSSION:** In the case of good clinical and audiometric hearing, a severely deteriorated ABR is mostly an indicator of

severe nerve compression and adhesion by the tumour. In view of subsequently reported experiences with intraoperative ABR monitoring, the value of the presented system emphasizing the importance of Wave III is stressed and discussed with other views in the literature. The criteria presented here are not designed for recognition of retrocochlear disease but aim for evaluation of the state of the auditory nerve and its perspective. **CONCLUSION:** By the presented classification of ABR Type B1 through B5, preoperative prediction of the likelihood of hearing preservation is improved. Author.

**Endoscopic transseptal transsphenoidal surgery for pituitary tumours.** Yaniv, E., Rappaport, Z. H. Department of Otolaryngology, Rabin Medical Centre, Petah Tiqva, Israel. *Neurosurgery* (1997), May, Vol. 40 (5), pp. 944-6.

**OBJECTIVE:** Transseptal transsphenoidal surgery of pituitary tumours is a well-established surgical technique. The sublabial approach and the open rhinoplasty approach are most commonly used. In both cases, the surgical avenue is along the entire length of the nasal septum, removing both nasal cartilage and the vomer. Septal perforations and upper dental anesthesia are frequent complications of the standard approaches. We describe our initial experience in using the nasal endoscope for the first stage of the operation. **METHODS:** A nasal endoscope was used to open the anterior wall of the sphenoid sinus. Our initial incision was in the posterior third of the septum, removing only the vomer. After the sphenoid sinus was opened, we inserted a speculum and proceeded with the operation with an operating microscope. After the speculum was in place, it was easier to proceed with the microscope, which allows binocular vision and bimanual operation. **RESULTS:** The procedure was used for our most recent 14 consecutive patients with pituitary adenomas. No complications related to the approach were encountered for any of the patients in follow-up monitoring. **CONCLUSION:** The endoscopic transseptal approach to the sphenoid sinus for pituitary surgery was found to be easy, time-saving, and without septal or sublabial complications. Author.

**Nasal sensitization.** Van Cauwenberge, P. B. Department of Otorhinolaryngology, University of Ghent, Belgium. *Allergy* (1997), Vol. 52 (33 Suppl), pp. 7-9.

Because humans breathe through the nose, the nasal mucosa becomes sensitized to inhaled allergens. Allergic rhinitis is, together with allergic conjunctivitis, the best example of a type I hypersensitivity reaction. It is an inflammation of the nasal mucosa induced by specific immune recognition of exogenous allergens. The production of IgE plays a major role in the pathophysiology. During the sensitization phase, an antigen is presented to an antigen-presenting cell at the epithelial level. Cells that express class II major histocompatibility complex Ia on their surface can act as an antigen-presenting cell for immunocompetent cells (dendritic cells, monocytes, macrophages, B lymphocytes and epithelial cells). Macrophages and Langerhans cells are increased in number in the nasal mucosa of patients with seasonal allergic rhinitis during the season and also after allergen challenge. Topical corticosteroid treatment reduces the number of Langerhans cells in the epithelium. The epithelium also participates in antigen presentation through its possession of antigen-binding surface proteins. The antigen is finally presented to CD4 T-helper cells and B cells; this is monitored by cytokines and leads to the development of memory cells and IgE-producing plasmocytes. In humans, IL-4 has been shown to be capable of differentiating B cells into IgE-producing plasma cells. The IL-4 production is inhibited by interferon gamma and by prostaglandin E2. The CD4+ cells also produce IL-2, which causes differentiation and proliferation of T lymphocytes, and IL-3, IL-5 IL-6 and IL-7, which stimulate the B lymphocytes. Topical administration of anti-allergic drugs or immunotherapy seems to be a logical approach in the treatment of patients with allergic rhinitis, because it has very direct activity on the main components of nasal sensitization. Author.

**Selective vestibular damage in neurosarcoidosis.** von Brevern, M., Lempert, T., Bronstein, A. M., Kocen, R. MRC Human Movement and Balance Unit, National Hospital for Neurology and Neurosurgery, London, UK. *Annals of Neurology* (1997), July, Vol. 42 (1), pp. 117-20.

We report a patient with neurosarcoidosis who developed bilateral

benign paroxysmal positional vertigo (BPPV) of the posterior canals, deafness, and absent responses to conventional caloric and rotational vestibular testing. Additional rotation in the planes of the vertical semicircular canals revealed relative sparing of vertical canal function. This vertical-horizontal canal dissociation explains the presence of BPPV and suggests that the vestibular damage in this patient is secondary to a vasculitic neuropathy. Author.

**MRI of inner ear and facial nerve pathology using 3D MP-RAGE and 3D CISS sequences.** Held, P., Fellner, C., Fellner, F., Seitz, J., Graf, S., Hilbert, M., Strutz, J. Department of Diagnostic Radiology, University Hospital, Regensburg, Germany. *British Journal of Radiology* (1997), June, Vol. 70 (834), pp. 558–66.

The aim of this study was to evaluate 3D CISS, unenhanced 3D MP-RAGE and contrast enhanced 3D MP-RAGE for the diagnosis of neoplastic, vascular and inflammatory lesions of the cerebellopontine angle, the inner auditory canal, the labyrinth and the facial nerve. 42 MR examinations were performed on a total of 38 patients (25 males, 13 females; aged one to 77 years, mean age  $43 \pm 20$  years) using a 1.5 T MR unit. A T2\* weighted 3D CISS sequence (TR 14.65 ms, TE 21 ms, flip angle 65 degrees, voxel size  $0.7 \times 0.7 \times 0.7$  mm<sup>3</sup>) and a T1 weighted 3D MP-RAGE sequence (TR 12.5 ms, TE 5 ms, T1 300 ms, flip angle 15 degrees, voxel size  $1.0 \times 0.9 \times 0.9$  mm<sup>3</sup>) with and without contrast medium (gadolinium-DTPA, 0.1 mmol kg<sup>-1</sup> body weight) were used. Results of contrast enhanced 3D MP-RAGE-pathological enhancement was found in the following lesions: schwannomas of the cerebellopontine angle (CPA) and the internal auditory canal (IAC), four; schwannomas of the IAC, seven and labyrinthine tumours, three; posterior fossa lymphoma, one; meatal meningioma, one; acute labyrinthitis, 15 and neuritis of the seventh cranial nerve, 10. Results of 3D CISS-filling defects were found with the following lesions: schwannomas of the CPA, the IAC or labyrinth, 14; lymphoma, one; meningioma, one; labyrinthine fibrosis, 13 and scar in the IAC, four. These results suggest that unenhanced and contrast enhanced 3D MP-RAGE and 3D CISS are complementary MR imaging modalities. T1 weighted 3D MP-RAGE is preferred to T1 weighted 2D (turbo) spin echo sequences because of the multiplanar reconstruction possibilities of 3D sequences, which are very useful in the case of the inner ear and facial nerve. Author.

**Lymphoma of the nasal cavity and paranasal sinuses: improved outcome and altered prognostic factors with combined modality therapy.** Logsdon, M. D., Ha, C. S., Kavadi, V. S., Cabanillas, F., Hess, M. A., Cox, J. D. Department of Radiation Oncology, The University of Texas M.D. Anderson Cancer Center, Houston 77030, USA. *Cancer* (1997), August 1, Vol. 80 (3), pp. 477–88.

**BACKGROUND:** Lymphoma of the nasal cavity and paranasal sinuses is a rare presentation of extranodal lymphoma with a natural history that is not well characterized in this era of combination chemotherapy. The goals of this retrospective study were 1) to define the natural history of sinonasal lymphomas; 2) to compare the results of radiation therapy (XRT) alone with those of combined modality therapy (CMT) in the treatment of patients with lymphoma of the nasal cavity and paranasal sinuses; and 3) to define prognostic factors for each treatment. **METHODS:** Between 1947 and 1993, 70 patients with newly diagnosed lymphoma of the nasal cavity and paranasal sinuses were treated. The Ann Arbor stages were: Stage IE: 42 patients; Stage IIE: 14 patients; Stage IIIE: two patients; and Stage IV: 12 patients. The distribution of T classifications of the primary tumours was as follows: T1: two patients; T2: 16; T3: 18; and T4: 34. Greater than 90 per cent of the patients had intermediate grade lymphoma (Working Formulation), and none had follicular lymphoma. Twenty-eight patients received XRT alone, and 42 received CMT. **RESULTS:** The actuarial five-year freedom from progression (FFP) and overall survival (OS) rates for the entire group were 57 per cent and 52 per cent, respectively. For patients with localized disease (Stages IE and IIE) receiving CMT, the actuarial five-year FFP and OS were 83 per cent and 67 per cent, respectively. In multivariate analysis, treatment with CMT ( $p = 0.0005$ ) and stage (IE vs. IIIE-IV) ( $p = 0.0001$ ) were associated with improved FFP. In the group of patients receiving XRT, extent of disease (Stage IE, T1-3 vs. Stage IE, T4 vs. Stage IIE-IV) ( $p = 0.0001$ ) was the only clinical characteristic associated with improved FFP in multivariate analysis. For patients receiving CMT, International Index (0 vs. 1-3 vs. 4, 5) ( $p = 0.0001$ ) was the

only significant factor predictive of improved FFP in multivariate analysis. One patient failed in the central nervous system (CNS) after initial therapy as a result of a radiation therapy marginal miss. **CONCLUSIONS:** In a Western population, patients with localized lymphoma of the nasal cavity and paranasal sinuses have a favourable prognosis when treated with CMT. FFP is significantly improved by treatment with CMT. For patients treated with XRT, extent of disease is the strongest predictor of outcome. International Index is the most significant prognostic factor for patients receiving CMT. Failure in the CNS is rare after initial therapy and is associated with local failure. Author.

**Effect of negative middle-ear pressure on transient-evoked otoacoustic emissions.** Marshall, L., Heller, L. M., Westhusin, L. J. Naval Submarine Medical Research Laboratory, USA. *Ear and Hearing* (1997), June, Vol. 18 (3), pp. 218–26.

**OBJECTIVE:** The purpose of the study was to illustrate the effect of negative middle-ear pressure (MEP) on both the stimulus and response of transient-evoked otoacoustic emissions (TEOAEs) and the effect of compensating for negative pressure in the middle ear by pneumatically introducing pressure into the ear canal. Simulation of negative MEP by introducing positive pressure into the ear canal also was examined. **DESIGN:** TEOAEs were measured over six months in a subject who frequently had negative MEP out to  $-150$  daPa. Compensation was done for MEPs of  $-105$ ,  $-135$ , and  $-165$  daPa. Simulation of negative pressure was done for these same pressures. The effect of a pressure differential across the eardrum on the stimulus spectrum was measured at 100, 200, and 300 daPa. All measurements were made on the same subject. **RESULTS:** Small amounts of negative MEP significantly affected both stimulus and response spectra. The simulated negative MEP approximated actual MEP at MEPs of  $-105$  and  $-135$  daPa. At  $-165$  daPa, a divergence between the two spectra occurred below 2.0 kHz. Compensation for negative MEP by pneumatically introducing pressure into the ear canal essentially returned both spectra to that seen when the MEP was close to ambient pressure, at least for frequencies above 1.5 to 2.0 kHz. At lower frequencies, compensation resulted in increased TEOAE amplitude relative to the amplitude at ambient pressure. **CONCLUSIONS:** Small amounts of negative MEP may affect TEOAE spectra and potentially influence the reliability of the test. For long-term monitoring of TEOAEs, MEPs either should be near ambient pressure or should be compensated for by an equivalent pressure in the ear canal. Author.

**Nasogastric and percutaneous endoscopic gastrostomy feeding in head and neck cancer patients receiving radiotherapy treatment at a regional oncology unit: a two year study.** Lees, J. Clatterbridge centre for oncology, Bebington, Wirral, Merseyside, UK. *European Journal of Cancer Care (English)* (1997), March, Vol. 6 (1), pp. 45–9.

The aim of this prospective two year study was to compare the outcome of two methods of nutritional support, namely nasogastric (NG) and percutaneous endoscopic gastrostomy (PEG) feeding implemented for head and neck cancer patients unable to maintain their nutritional status whilst receiving radiotherapy treatment at a regional oncology unit. The nutritional requirements of the 100 patients included in the study were calculated and an enteral feeding regime implemented to ensure the nutritional requirements of each individual patient were met. Any changes in the weight and body mass index (BMI) of each patient during the study period were documented. The method of delivery, composition of feed and duration of nutritional support of each feeding method were determined. The feeding methods were found to be equally effective at maintaining body weight. Patients with NG tubes in situ were more frequently prescribed a standard 1 kcal/ml feed administered via an enteral feeding pump, whereas patients with PEG tubes in situ were more frequently prescribed a high energy 1.5 kcal/ml feed administered by the bolus method. A number of advantages are associated with PEG feeding including greater mobility, cosmesis and quality of life. Evidence indicates the outcome of radiotherapy treatment is not as favourable if interrupted, therefore, it is essential PEG tubes are sited prior to commencing treatment, illustrating the necessity for dietetic intervention for every patient to be addressed and incorporated into the treatment plan on diagnosis of head and neck cancer before definitive management commences. Author.

**The influence of the cochlear efferent system on chronic acoustic trauma.** Zheng, X. Y., Henderson, D., Hu, B. H., Ding, D. L., McFadden, S. L. Department of Communicative Disorders and Sciences, State University of New York at Buffalo 14214, USA. *Hearing Research* (1997) May, Vol. 107 (1-2), pp. 147-59.

The role of the olivocochlear bundle (OCB) in modulating noise-induced permanent injury to the auditory periphery was studied by completely sectioning the OCB fibers in chinchillas and exposing the animals while awake to a broad-band noise at 105 dB SPL for 6 h. Outer hair cell (OHC) function was assessed by measuring 2f<sub>1</sub>-f<sub>2</sub> distortion product otoacoustic emissions (DPOAE) at frequencies from 1.2 to 9.6 kHz and cochlear microphonics (CM) at frequencies from one to eight kHz. As a result of de-efferentation, the CM was decreased but the DPOAEs were unchanged in de-efferented ears as compared with efferented control and sham-operated ears. Following noise exposure, the ears that were de-efferented showed significantly more depression of DPOAE input/output functions and greater decrement of CM amplitude. The differences between de-efferented and efferent-innervated ears were evident across all the frequencies. The cochlear lesions of the OHCs reflected by traditional cytochrome c oxidase, however, were minimal in both efferented and de-efferented ears. The results indicate that cochlear de-efferentation decreases the CM in chinchilla and increases the ear's susceptibility to noise-induced permanent hearing damage. More importantly, de-efferentation increases susceptibility at low frequencies as well as high frequencies. Author.

**Transnasal endoscopic management of choanal atresia.** Deutsch, E., Kaufman, M., Eilon, A. Department of Otorhinolaryngology and Head and Neck Surgery, Bikur Cholim General Hospital, Jerusalem, Israel. *International Journal of Pediatric Otorhinolaryngology* (1997), May 4, Vol. 40 (1), pp. 19-26.

Since 1755, when Roederer first described choanal atresia, more than 350 papers have been published dealing with the various aspects of this entity. Many surgical techniques have been used to treat the malformation, each with its advantages and disadvantages. Endoscopic transnasal repair of choanal atresia provides excellent visualization and enables accurate surgery to be performed on patients of all ages and even on newborn infants. Described are two newborn infants, one with bilateral choanal atresia and the other with bilateral choanal stenosis, successfully treated by endoscopic transnasal repair, with a 12 month follow-up. The technique of endoscopic choanal repair is described, emphasizing it as a highly successful, short and safe procedure with swift recovery and short hospitalization. Author.

**Tumour hypoxia adversely affects the prognosis of carcinoma of the head and neck.** Brizel, D. M., Sibley, G. S., Prosnitz, L. R., Scher, R. L., Dewhirst, M. W. Department of Radiation Oncology, Duke University Medical Center, Durham, NC 27710, USA. brizel@radonc.duke.edu. *International Journal of Radiation, Oncology, Biology and Physiology* (1997), May 1, Vol. 38 (2), pp. 285-9.

**PURPOSE:** Tumour hypoxia adversely affects short term clinical radiation response of head and neck cancer lymph node metastases and long term disease-free survival (DFS) in cervix carcinoma. This study was performed to evaluate the relationship between tumour hypoxia and DFS in patients with squamous carcinoma of the head and neck (SCCHN). **METHODS AND MATERIALS:** Pretreatment tumour pO<sub>2</sub> was assessed polarographically in SCCHN patients. All patients were AJCC Stage IV and had pretreatment oxygen measurements taken from locally advanced primaries (T3 or T4) or neck nodes > or = 1.5 cm diameter. Treatment consisted of once daily (2 Gy/day to 66-70 Gy) or twice daily irradiation (1.25 Gy B.I.D. to 70-75 Gy) ± planned neck dissection (for > or = N2A disease) according to institutional treatment protocols. **RESULTS:** Twenty-eight patients underwent tumour pO<sub>2</sub> measurement. The average pretreatment median pO<sub>2</sub> was 11.2 mmHg (range 0.4-60 mmHg). The DFS at 12 months was 42 per cent. The DFS was 78 per cent

for patients with median tumour pO<sub>2</sub> > 10 mmHg but only 22 per cent for median pO<sub>2</sub> < 10 mmHg (*p* = 0.009). The average tumour median pO<sub>2</sub> for relapsing patients was 4.1 mmHg and 17.1 mmHg in non-relapsing (NED) patients (*p* = 0.007). **CONCLUSION:** Tumour hypoxia adversely affected the prognosis of patients in this study. Understanding of the mechanistic relationship between hypoxia and treatment outcome will allow for the development of new and rational treatment programs in the future. Author.

**Protection from gentamicin ototoxicity by iron chelators in guinea pig in vivo.** Song, B. B., Anderson, D. J., Schacht, J. Kresge Hearing Research Institute, University of Michigan, Ann Arbor 48109-0506, USA. *Journal Pharmacology Experimental Therapy* (1997), July, Vol. 282 (1), pp. 369-77.

This study details the prevention of gentamicin-induced hearing loss in guinea pig in vivo. The approach is based on our recent demonstrations of a redox-active gentamicin-iron complex in vitro and partial attenuation of gentamicin-induced hearing loss by the iron chelators deferoxamine and 2,3-dihydroxybenzoate. In our study, guinea pigs receiving injections of gentamicin (120 mg/kg body weight daily × 19 days) developed a progressive threshold shift reaching 50 to 70 dB at 18 kHz. Concurrent treatment with different doses of 2,3-dihydroxybenzoate (30-300 mg/kg/day) reduced the threshold shift to 25 to 15 dB. Coinjection of gentamicin with dihydroxybenzoate (100 mg/kg/day) plus mannitol (15 mg/kg/day) yielded complete functional and morphological protection from gentamicin ototoxicity although partial protection was observed with combinations of dihydroxybenzoate and deferoxamine. Dihydroxybenzoate also attenuated gentamicin-induced vestibular toxicity. The iron chelators and radical scavengers affected neither serum levels nor the antimicrobial efficacy of gentamicin against *Escherichia coli*. These results confirm that iron and free radicals play a crucial role in the toxic side effects of gentamicin. Furthermore, they suggest that iron chelators, which are well-established drugs in clinical therapy, may be promising therapeutic agents to reduce aminoglycoside ototoxicity. Author.

**Recurrent laryngeal nerve dysfunction following carotid endarterectomy.** Curran, A. J., Smyth, D., Sheehan, S. J., Joyce, W., Hayes, D. B., Walsh, M. A. Royal College of Surgeons in Ireland, Professorial Department of Otolaryngology, Dublin, Ireland. *Journal of the Royal College of Surgery (Edinburgh)* (1997) June, Vol. 42 (3), pp. 168-70.

Recurrent laryngeal nerve dysfunction is a significant complication of carotid endarterectomy and vocal cord paralysis is a major source of morbidity. This study prospectively assessed patients undergoing carotid endarterectomy to determine the nature and frequency of vocal cord damage and attempt to identify avoidable factors. Fifty consecutive patients undergoing carotid endarterectomy for symptomatic disease were studied. A standardized surgical technique was used emphasizing identification of the vagus nerve and minimal disturbance of the surrounding tissues. All patients underwent preoperative and post-operative (day 2) indirect laryngoscopy and videostroboscopy. Pre-operative assessment found asymptomatic compensated vocal cord paralysis in one patient who had previously had a stroke. Post-operative laryngoscopy revealed asymptomatic impaired vocal cord mobility in three patients (six per cent) all of whom recovered completely. In addition six patients (12 per cent) developed post-operative hoarseness of whom five have fully recovered. The remaining patient (two per cent) developed vocal cord paralysis which is permanent to date. This prospective study demonstrates that recurrent laryngeal nerve dysfunction is a common but often transient complication of carotid endarterectomy. The incidence of vocal cord paralysis in this group was less than many of the reported series. This could be due to the technique of minimal dissection which may prevent disturbance of the vagal segmental blood supply. Pre-operative vocal cord assessment is essential in all patients undergoing carotid endarterectomy. Author.