

Abstract Selection

Congenital nasal masses: CT and MR imaging features in 16 cases. Barkovich, A. J., Vandermarck, P., Edwards, M. S., Cogen, P. H. Department of Radiology, University of California, San Francisco 94143-0628. *American Journal of Neuro-Radiology* (1991) Jan-Feb, Vol. 12 (1), pp. 105–16.

The imaging studies of 16 children with pathologically proved nasal encephaloceles (eight), nasal dermal sinuses/nasal dermoids (seven), and nasal cerebral heterotopias, more commonly known as nasal gliomas (one), were retrospectively reviewed and compared with normal control subjects to define the normal anatomy and analyze deformities caused by these lesions. Nasal encephaloceles were always identified as complex masses of mixed soft tissue and CSF intensity that were contiguous with intracranial structures. The nasal glioma appeared as a mixed-intensity mass that, on the basis of the CT scan, appeared to be continuous with intracranial structures. Nasal dermal sinuses could only be identified as they coursed through the skin and subcutaneous soft tissue. They could not be identified when intraosseous. Moreover, on CT and, particularly, on MR, a number of potential diagnostic pitfalls were encountered. The most important of these was the normal fat deposition that occurs within bone during normal maturation and during aeration of the frontal sinuses and nasal bones. These fatty changes can easily be mistaken for fatty tumours if they are not recognized as normal anatomic changes. Interestingly, the classic plain film findings for congenital nasal masses were present only in the encephaloceles and nasal glioma; dermoids and dermal sinuses showed none of the classic plain film findings. In the six patients who had both CT and MR, the masses were easily identified and characterized by each imaging method. Congenital nasal masses are well characterized by both CT and MR. It is important to understand the normal changes in the anatomy of the nasofrontal region in the pediatric age group to avoid false-positive diagnoses in this region.

Orthodontic treatment and temporomandibular joint sounds—a longitudinal study. Sadowsky, C., Theisen, T. A., Sakols, E. I. Department of Orthodontics, University of Illinois, Chicago. *American Journal of Orthodontics and Dento-Facial Orthopedics* (1991) Vol. 99 (5), pp. 441–7.

Temporomandibular joint sounds are often recognized as a clinical sign of temporomandibular disorders. The purpose of this study was to examine changes in the occurrence and resolution of these sounds in patients before and after orthodontic treatment with full fixed appliances. From a pool of 324 patients who came to a university postgraduate orthodontic clinic specifically for treatment of a malocclusion, 160 were examined before and after orthodontic treatment. When joint sounds were either reported or detected clinically, the patients underwent an audiovisual examination to more precisely and objectively record the occurrence and timing of the sound during mandibular opening and closing. No statistically significant difference could be found in the change in occurrence of joint sounds among patients treated with extraction and non-extraction treatment strategies. Overall, fewer patients had joint sounds at the end of the active stage of orthodontic treatment than before treatment. Also, fewer patients demonstrated reciprocal clicking after treatment than before treatment. Therefore it appeared that orthodontic treatment did not pose an increased risk for developing temporomandibular joint sounds irrespective of whether extraction or non-extraction treatment strategies were used. A progression of signs or symptoms to more serious problems was not apparent over the time period studied. Author.

The Brain laryngeal mask. A comparative study with the nasal mask in paediatric dental outpatient anaesthesia. Bailie, R., Barnett, M. B., Fraser, J. F. Department of Anaesthetics, Guy's Hospital, London. *Anaesthesia* (1991) May, Vol. 46 (5), pp. 358–60.

Fifty ASA grade 1 children, who presented for dental outpatient extraction were studied. They were randomly allocated to two groups after induction: group 1 had conventional nasal mask anaesthesia and group 2 anaesthesia with a laryngeal mask. Group 2 had fewer hypoxic episodes and significantly better arterial oxygen saturations (P less than 0.01). There was no difference between the groups as regards surgical access, difficulty of extraction or bleeding. The laryngeal mask appears to provide an alternative to conventional nasal mask anaesthesia, with better overall oxygenation and would seem particularly suitable for prolonged or difficult extractions. Author.

Computerized axial tomography of the trachea. A useful investigation when a retrosternal goitre causes symptomatic tracheal compression. Barker, P., Mason, R. A., Thorpe, M. H. Department of Anaesthetics, Singleton Hospital, Swansea. *Anaesthesia* (1991) Mar, Vol. 46 (3), pp. 195–8.

Case histories are reported of three patients who had large retrosternal goitres which were responsible for significant abnormalities of the airway. Computerized axial tomography demonstrated the exact anatomy. The site of tracheal compression was shown and accurate measurements of the diameter of the trachea at its narrowest point were made. This information was useful when the management of the patient was planned. Author.

Airway protection by the laryngeal mask. A barrier to dye placed in the pharynx. John, R. E., Hill, S., Hughes, T. J. Royal Hallamshire Hospital, Sheffield. *Anaesthesia* (1991) May, Vol. 46 (5), pp. 366–7.

Methylene blue was placed in the pharynx of 64 patients undergoing anaesthesia with the laryngeal mask. No leak of dye into the larynx was detected on fiberoptic inspection of the inside of the mask in any subject. The use of the laryngeal mask as a means of protecting the airway during procedures such as minor nasal operations is therefore supported. Author.

Late auditory evoked potentials in alcoholics. Identifying those with a history of epileptic seizures during withdrawal. Neiman, J., Noldy, N. E., el-Nesr, B., McDonough, M., Carlen, P. L. Addiction Research Foundation, Toronto, Ontario, Canada. *Annals of the New York Academy of Sciences* (1991), Vol. 620, pp. 73–81.

The N1-P2 wave of the auditory evoked potential was studied in 19 alcoholics, six of whom had withdrawal seizures on previous admissions. The recordings were made at one and five days after cessation of drinking. Eight nonalcoholic volunteers were used as controls. The latencies of N1 and P2 were slightly prolonged in alcoholics, but during the detoxification period they frequently shortened (P less than 0.05), occasionally attaining the values of the controls. One day after withdrawal, the amplitude of N1-P2 was consistently reduced in the alcoholics compared to the controls (P less than 0.05 and P less than 0.001), but higher in alcoholics with a seizure history compared to alcoholics without seizures (P than 0.05 and P than 0.001). Five days after cessation of drinking, the amplitude in the alcoholic groups always increased from the admission values (P than 0.05 and P than 0.01). By that time, the alcoholics with a history of withdrawal seizures had significantly (P than 0.05 and P than 0.01) higher amplitudes than those of the controls or the alcoholics without seizures. Large N1-P2 amplitude during alcohol withdrawal may reflect increased cerebral excitability and contribute to the identification of alcoholics with high risk for withdrawal seizures. Author.

Cardiovascular and bronchial actions of famotidine in anesthetized dogs. Miyata, K., Kamato, T., Fujihara, A., Tekeda, M. Department of Pharmacology, Medicinal Research Laboratories, Yamaguchi Pharmaceutical Co., Ltd., Tsukuba, Japan. *Arzneimittelforschung* (1990) Nov, Vol. 40 (11), pp. 1234–8.

The effects of famotidine (Gaster; CAS 76824-35-6) and cimetidine on cardiovascular and bronchial functions were investigated in anesthetized dogs. Famotidine did not affect heart rate, blood pressure, left ventricular pressure (LVP), max. dLVP/dt, cardiac output or coronary blood flow at i.v. doses of 1 to 30 mg/kg in open-chest dogs anesthetized with pentobarbital or a combination of nitrous oxide, oxygen and halothane (GOF). No hemodynamic changes were either observed after famotidine in pentobarbital anesthetized dogs whose cardiac function was depressed by propranolol (1 mg/kg i.v.). On the contrary, cimetidine dose-dependently decreased heart rate and blood pressure, cardiac at doses greater than 3 mg/kg, and left ventricular pressure, cardiac output and coronary blood flow at the dose of 30 mg/kg. Regarding the electrocardiogram (ECG), famotidine did not produce any remarkable change at doses up to 30 mg/kg with the exception of a transient increase or decrease in the T-wave amplitude at a dose of 30 mg/kg. Cimetidine prolonged Q-T intervals of ECG in addition to changing the T-wave at a dose of 30 mg/kg. Neither famotidine nor cimetidine showed any effect on resting and histamine-increased bronchoreistance at doses up to 30 mg/kg. It is concluded that famotidine is superior to cimetidine with regard to safety because famotidine has no significant effects on cardiovascular functions in anesthetized dogs. Author.

Motion sickness severity and physiological correlates during repeated exposures to a rotating optokinetic drum. Hu, S., Grant, W. F., Stern, R. M., Koch, K. L. Department of Psychology, Pennsylvania State University, University Park 16802. *Aviation, Space and Environmental Medicine* (1991) Apr, Vol. 62 (4), pp. 308-14. Fifty-two subjects were exposed to a rotating optokinetic drum. Ten of these subjects who became motion sick during the first session completed two additional sessions. Subjects' symptoms of motion sickness, perception of self-motion, electrogastrograms (EGGs), heart rate, mean successive differences of R-R intervals (RRI), and skin conductance were recorded for each session. The results from the first session indicated that the development of motion sickness was accompanied by increased EGG 4-9 cpm activity (gastric tachyarrhythmia), decreased mean successive differences of RRI, increased skin conductance levels, and increased self-motion perception. The results from the subjects who had three repeated sessions showed that 4-9 cpm EGG activity, skin conductance levels, perception of self-motion, and symptoms of motion sickness all increased significantly during the drum rotation period of the first session, but increased significantly less during the following sessions. Mean successive differences of RRI decreased significantly during the drum rotation period for the first session, but decreased significantly less during the following sessions. In conclusion, we have demonstrated that the development of motion sickness is accompanied by an increase in gastric tachyarrhythmia, and an increase in sympathetic activity and a decrease in parasympathetic activity, and that adaptation to motion sickness is accompanied by the recovery of autonomic nervous system balance. Author.

Synaptophysin and chromogranin A immunoreactivities in senile plaques of Alzheimer's disease. Brion, J. P., Couck, A. M., Bruce, M., Anderton, B., Flament-Durand, J. Laboratory of Pathology and Electron Microscopy, Universite Libre de Bruxelles, Belgium. *Brain Research* (1991) Jan 18, Vol. 539 (1), pp. 143-50. Immunolabelling for synaptophysin and chromogranin A, two polypeptides associated with small clear and large dense core synaptic vesicles respectively, has been performed on tissue sections of the temporal cortex in Alzheimer's disease in combination with anti-A4 amyloid labelling. The dystrophic neurites in many senile plaques were observed to be labelled by the anti-synaptophysin or anti-chromogranin A antibodies. Some diffuse amyloid deposits, demonstrated by antibodies against synthetic amyloid A4 peptides, were associated with a punctuate increase in synaptophysin or chromogranin A immunoreactivity. The labelling of dystrophic plaque neurites may reflect the accumulation in these processes of synaptic vesicles or material derived from them. We suggest also that the punctuate increase in synaptophysin and chromogranin A immunoreactivities associated with some A4 amyloid deposits may be an early event reflecting neuronal dysfunction. Author.

Nasal bone haemangiomas: rare entities treatable by craniofacial approach. Bise, R. N., Jackson, I. T., Fukuta, K., Smit, R. Institute for Craniofacial and Reconstructive Surgery, Providence Hospital, Southfield, Michigan. *British Journal of Plastic Surgery* (1991) Apr, Vol. 44 (3), pp. 206-9.

Three cases of haemangioma of the nasal bone are illustrative of a rare clinical entity. These were treated by current craniofacial surgical techniques. The advantages of this approach are obvious minimizing of the facial deformity, obtaining autologous cranial bone graft and rigid fixation to enhance stability and minimize resorption. Author.

A phase II study of piritrexim in combination with methotrexate in recurrent and metastatic head and neck cancer. Vokes, E. E., Dimery, I. W., Jacobs, C. D., Karp, D., Molina, A., Collier, M. A., Eble, M. L., Clendenin, N. J. Department of Medicine, University of Chicago, IL 60637. *Cancer* (1991) May 1, Vol. 67 (9), pp. 2253-7.

Thirty patients with recurrent and/or metastatic head and neck cancer were treated with sequentially administered methotrexate (MTX) and piritrexim (PTX). The treatment schedule consisted of intravenous (IV) MTX (50 mg/m²) administered on day one and oral PTX (75 mg/m²) administered twice daily on days eight to 12. Courses were repeated every 21 days with dose escalation in subsequent courses aimed at achieving Grade 1 toxicity. Two patients were not evaluable for response, five (17 per cent; 95 per cent confidence interval, 4 to 30 per cent) had a partial response (PR), 10 had stable disease, and 13 had progressive disease. All five responses were seen in patients with regional lymph nodes as measurable disease. The median time to progression for all patients was 1.4 months, and the median survival was 6.7 months. Generally, this regimen was well tolerated with only mild toxicity seen during cycle 1 in the majority of patients. Dose escalation in subsequent cycles was possible in a high percentage of patients. Although the overall response rate and survival figures in this Phase II trial were disappointing, the doses and schedule used in this trial may have been suboptimal as reflected by the low incidence of moderate to severe toxicity. Additional evaluation of this combination of drugs in a more aggressive schedule may be warranted. Author.

Intraoperative radiation therapy for recurrent head and neck cancer. Rate, W. R., Garrett, P., Hamaker, R., Singer, M., Pugh, N., Ross, D., Haerr, R., Charles, G. Department of Radiation Therapy, Methodist Hospital of Indiana, Indianapolis 46206. *Cancer* (1991) Jun 1, Vol. 67 (11), pp. 2738-40.

Forty-seven patients with recurrent head and neck cancer in a previously irradiated field were treated with surgical resection and intraoperative radiation therapy (IORT). Recurrent disease occurred at a median of 18 months from primary treatment, and was at the primary tumour site in 31 and metastatic to regional lymph nodes in 16. Recurrences were squamous cell carcinomas in 42 and adenoid cystic in five. Surgical resection left microscopic residual disease in 41 and gross residual in six. All patients received IORT with a median of 20 Gy. Two-year actuarial survival is 54.9 per cent and 15 patients are alive and disease free with a median survival of 29 months. Two-year actuarial local control is 61.5 per cent. A trend toward increased survival (P less than 0.09) and local recurrence control ($p = 0.05$) was noticed when treating microscopic residual disease as opposed to gross residual disease. Perioperative mortality was seen in 8.5 per cent and there was no increase in morbidity secondary to IORT. The authors believe that surgical resection and IORT is an effective treatment modality for head and neck cancers recurrent in previously irradiated fields and is adaptable to tertiary care hospitals. Author.

In vitro radiation resistance among cell lines established from patients with squamous cell carcinoma of the head and neck. Grenman, R., Carey, T. E., McClatchey, K. D., Wagner, J. G., Pekkola-Heino, K., Schwartz, D. R., Wolf, G. T., Lacivita, L. P., Ho, L., Baker, S. R., *et al.* Department of Otolaryngology—Head and Neck Surgery, University of Michigan, Ann Arbor 48109-0506. *Cancer* (1991) Jun 1, Vol. 67 (11), pp. 2741-7.

Twenty-five squamous cell carcinoma (SCC) cell lines from 20 patients with head and neck cancer were assessed for radiosensitivity *in vitro* using a 96-well plate assay. Four non-SCC lines were also tested. Radiation sensitivity of individual cell lines was compared using the area under the survival curve (AUC) as a measure of the mean inactivation dose. Tumour lines were tested with either a cobalt-60 (60 Co) gamma-irradiator having a dose rate of 100 cGy/min or with a 4-meV photon beam having a dose rate of 200 cGy/min. The mean AUC of the 25 SCC cell lines was 188 ± 7 (SEM) cGy (range, 100 to 250 cGy) whereas the four non-SCC lines had a mean AUC of 225 ± 9 cGy. The SCC cell lines with mean inactivation dose values greater than 188 cGy were classified as relatively

radioresistant whereas those with values less than 188 cGy were considered relatively radiosensitive. In seven cases SCC cell lines were derived from patients who had already received radiation therapy. In four of these cases the tumour cell lines were radioresistant (AUC, 210 to 250) but in the other three cases the tumour lines were radiosensitive (AUC, 160 to 180). Thus, failure of a tumour to respond to radiation did not always select for radioresistant cells. The mean of the AUC for cell lines from previously irradiated patients (197 ± 11 cGy) did not differ significantly from that of the cell lines from patients who received no prior radiation therapy (182 ± 9 cGy). However, among radiation-resistant lines those from the four previously irradiated patients were significantly more resistant (mean AUC = 235 ± 9) than seven other radioresistant lines from non-irradiated patients (mean AUC, 208 ± 4) ($p = 0.0194$). In four cases more than one cell line was derived from different tumour specimens in the same patient. In each of these cases the lines from the same patients were similar to one another in their degree of radioresistance. Based on these observations the authors conclude that the degree of *in vitro* radiation resistance is an inherent property of some squamous cell tumours. Author.

Insulin action and metabolism in patients with head and neck cancer. Byerley, L. O., Heber, D., Bergman, R. N., Dubria, M., Chi, J. Division of Clinical Nutrition, UCLA School of Medicine 90024-1742. *Cancer* (1991) Jun 1, Vol. 67 (1), pp. 2900-6.

Cachexia is a phenomenon commonly observed in patients with cancer, but its etiology is poorly understood. Abnormalities of insulin action and metabolism that have been hypothesized to promote cancer cachexia were investigated in this study using a computerized euglycemic clamp and modified frequently sampled intravenous glucose tolerance test (FSIGT) in a group of malnourished patients with localized head and neck cancer, and in healthy, well-nourished, age- and sex-matched controls. Glucose disposal rates, determined by the euglycemic clamp at three different rates of insulin infusion did not differ significantly between the two groups. However, mean plasma insulin concentrations at each level of insulin infused were significantly lower in the patients with cancer than in the control subjects resulting in unexpectedly higher calculated insulin metabolic clearance rate in the patients with cancer. Peripheral insulin sensitivity calculated from the slope of glucose disposal versus plasma insulin concentration did not differ between the two groups. Results from the FSIGT demonstrated no difference in insulin sensitivity or insulin-independent glucose disappearance between the two groups. However, whole body glucose appearance was significantly elevated in the patients with cancer. Thus, increased whole body glucose utilization in the absence of insulin resistance or increased insulin-dependent glucose disposal was observed. These data are consistent with the concept of a localized tumour acting as a glucose drain in which case increased glucose appearance and increased insulin clearance would defend against hypoglycemia. Author.

Ketotifen reduces sneezing but not histamine release following nasal challenge with antigen. Majchel, A. M., Proud, D., Kagey-Sobotka, A., Lichtenstein, L. M., Naclerio, R. M. Department of Otolaryngology—Head and Neck Surgery, Johns Hopkins University School of Medicine, Baltimore, MD 21224. *Clinical and Experimental Allergy* (1990) Nov, Vol. 20 (6), pp. 701-5.

We evaluated the effect of pre-treatment with 1 and 2 mg b.i.d. of ketotifen on the early response to nasal challenges in a double-blind cross-over trial. Weekly nasal challenges were performed in 10 allergic subjects after one hour and 1, 2, 3, and 4 weeks of ketotifen administration. The response to nasal challenge was monitored by counting the number of sneezes, the assessment of subjective symptoms, and by measuring the levels of histamine and TAME-esterase activity in recovered nasal lavages. The number of sneezes diminished significantly after a single dose of drug with both the 1 and 2 mg doses. Prolonged pre-treatment did not improve the results. The levels of histamine and TAME-esterase activity in recovered nasal levels were not changed significantly by either pre-treatment at either dose. Although the number of subjects was small, our data suggest that ketotifen diminishes allergic symptomatology by its antihistaminic properties rather than by inhibiting histamine release from mast cells. As we did not look into the effects of ketotifen on other products generated by mast cells (prostanoids, leukotrienes and tryptase), we cannot fully rule out an effect on mast cells. Author.

Computed tomography in malignant external otitis. Guy, R. L.,

Wylie, E., Hickey, A., Tonge, K. A. Department of Radiology, St Thomas' Hospital, London. *Clinical Radiology* (1991) Mar, Vol. 43 (3), pp. 166-70.

Malignant external otitis is a severe infection of the external auditory meatus occurring predominantly in diabetics and usually caused by *Pseudomonas aeruginosa*. The infection may spread along several routes: directly by bony erosion into the adjacent mastoid bone, anteriorly into the parotid gland and temporomandibular joint and inferiorly into the soft tissues of the infratemporal fossa. We present four cases of malignant external otitis that illustrate the typical patterns of spread of this disease and the role that radiology, and in particular computed tomography, plays in its diagnosis and management. Author.

Incidental paranasal sinus abnormalities on MRI of the brain. Moser, F. G., Panush, D., Rubin, J. S., Honigsberg, R. M., Sprayregen, S., Eisig, S. B. Department of Radiology, Montefiore Medical Centre, Albert Einstein College of Medicine, Bronx, New York. *Clinical Radiology*, (1991) Apr, Vol. 43 (4), pp. 252-4.

T2-weighted magnetic resonance imaging (MRI) presents paranasal sinus pathology with remarkable clarity. However, it has yet to be demonstrated that all MRI findings represent true pathology and not minor or incidental findings of no consequence. In an effort to resolve this question, we have analyzed retrospectively 263 consecutive T2-weighted MRI examinations of the head performed for indications not associated with possible sinus pathology. We examined these studies for abnormally increased signal in the paranasal sinuses and the sites of involvement. Mucoperiosteal thickening, mucus retention cysts, air-fluid levels or total sinus opacification were recorded. Of the 263 studies examined, 65 (24.7 per cent) demonstrated abnormalities in the paranasal sinuses. We conclude that because of its great sensitivity MRI will often detect abnormalities in the paranasal sinuses which are unrelated to the patients' presenting problems. Author.

Consonant production in children receiving a multichannel cochlear implant. Tobey, E. A., Pancamo, S., Staller, S. J., Brimacombe, J. A., Beiter, A. L. Department of Communication Disorders, Louisiana State University Medical Center, New Orleans. *Ear and Hearing* (1991) Feb, Vol. 12 (1), pp. 23-31. ISSN 0196-0202.

Consonant production was investigated in 29 children participating in the Federal Food and Drug Administration's clinical trials of the Nucleus WSP-III cochlear implant. Speech samples were collected preimplant and one year postimplant. A significantly greater number of children produced stop, nasal, fricative, and glide consonants postimplant. Voiced stop consonants were used by more children than the voiceless cognates; however, voiceless fricatives were used more than voiced fricatives. Visible places of articulation were used more frequently than less visible places of articulation. Comparisons to Smith's data (*Journal Speech Hearing Research* 1975; 18: 795-811) revealed qualitative similarities but postimplant, quantitative differences were observed. Post hoc analyses of the data revealed some sounds were influenced more by an implant than other sounds and suggest the role of an implant upon spontaneous speech is complex. Author.

Performance of postlinguistically deaf adults with the Wearable Speech Processor (WSP III) and Mini Speech Processor (MSP) of the Nucleus Multi-Electrode Cochlear Implant. Skinner, M. W., Holden, L. K., Holden, T. A., Dowell, R. C., Seligman, P. M., Brimacombe, J. A., Beiter, A. L. Department of Otolaryngology—Head and Neck Surgery, Washington University School of Medicine, St. Louis, Missouri. *Ear and Hearing* (1991) Feb, Vol. 12 (1), pp. 3-22.

Seven post-linguistically deaf adults implanted with the nucleus multi-electrode cochlear implant participated in an evaluation of speech perception performance with three speech processors: the Wearable Speech Processor (WSP III), a prototype of the Mini Speech Processor, and the Mini Speech Processor. The first experiment was performed with the prototype and Wearable Speech Processor both programmed using the F0F1F2 speech coding strategy. The second experiment compared performance with the Mini Speech Processor programmed with the Multi-Peak speech coding strategy and the Wearable Speech Processor programmed with the F0F1F2 speech coding strategy. Performance was evaluated in the sound-only condition using recorded speech tests presented in quiet and in noise. Questionnaires and informal reports provided information about use in everyday life. In experiment I, there was no significant difference in performance using the Wearable

Speech Processor and prototype on any of the tests. Nevertheless, six out of seven subjects preferred the prototype for use in everyday life. In experiment II, performance on open-set tests in quiet and noise was significantly higher with the Mini Speech Processor (Multi-peak speech coding strategy) than with the wearable speech processor. Subjects reported an increase in their ability to communicate with other people using the Mini Speech Processor (Multi-peak speech coding strategy) compared with the Wearable Speech Processor in everyday life. Author.

Comparison of three hearing aid fittings using the Speech Intelligibility Rating (SIR) Test. Surr, R. K., Fabry, D. A. Walter Reed Army Medical Centre, Army Audiology and Speech Center, Washington, DC. *Ear and Hearing* (1991) Feb, Vol. 12 (1), pp. 32–8.

This study compared the effects of three different hearing aids on subjective ratings of speech intelligibility. Insertion gain measurements on KEMAR indicated that the hearing aid fittings differed primarily in mid-frequency gain. The test passages of the Speech Intelligibility Rating Test (SIR) were recorded onto tape through each hearing aid. The processed passages were presented monaurally to 13 subjects with hearing loss limited to frequencies above 2000 Hz. They rated five passages through each frequency responses (FR) in a randomized order. Each subject was retested within two or three days to assess test-retest reliability. Results indicated that the FR with the most mid-frequency amplification did not differ significantly from the aid with the least amount of mid-frequency gain. However, the FR with intermediate mid-frequency gain received significantly lower ratings than did FR with most gain. Examination of the data from individual subjects indicated that the SIR results did not show differences among the FRs for the majority of subjects. Author.

Role of a multichannel electro tactile speech processor in a cochlear implant program for profoundly hearing-impaired adults. Cowan, R. S., Blamey, P. J., Sarant, J. Z., Galvin, K. L., Alcantara, J. I., Whitford, L. A., Clark, G. M. Department of Otolaryngology, University of Melbourne, Parkville, Victoria, Australia. *Ear and Hearing* (1991) Feb, Vol. 12 (1), pp. 39–46.

Four profoundly hearing-impaired adults who did not meet current selection criteria for implantation at the University of Melbourne were each fitted with a wearable multi-channel electro tactile speech processor (Tickle Talker). The subjects were evaluated with a test battery of speech discrimination tests subsequent to training in use of the device. Thresholds for detection of pure tones were lower for the Tickle Talker than for hearing aids across the frequency range 250 to 4000 Hz. Mean speech detection thresholds for the Ling 5-sound test showed that all sounds were detected by users of the electro tactile device at normal conversational speech intensity levels. Mean speech discrimination scores were significantly higher (P than 0.05) in the tactualy aided condition as compared with the tactualy unaided for identification of vowels and consonants, on open-set words, open-set sentences, and on connected discourse tracking. Mean scores increased by 20 per cent for vowels, 19 per cent for consonants, 30 per cent for open-set words, and 25 per cent for open-set sentences when the Tickle Talker was used in a multimodal combination with lipreading or lipreading and hearing aids. Speech tracking rates for three subjects showed increases of from 18 to 28 wpm when the tactile device was used. Comparison of tactualy aided versus unaided tracking rates for two subjects with long-term experience shows continuing improvement with additional experience with the device. These results demonstrate that hearing-impaired adults not meeting selection criteria for cochlear implantation may benefit from use of an electro tactile speech processor, and highlight the potential benefits from integration of such devices into cochlear implant programs for profoundly hearing-impaired patients. Author.

Cochlear versus retrocochlear presbycusis: clinical correlates. Rizzo, S. R. Jr., Gutnick, H. N. Audiology and Speech Pathology Service, Department of Veterans Affairs, Chillicothe, Ohio. *Ear and Hearing* (1991) Feb, Vol. 12 (1), pp. 61–3.

This study reviews audiologic findings on cases of hearing-impaired elderly adults who were matched on the basis of peripheral hearing loss and who were divided into cochlear and retrocochlear groups on the basis of auditory brain stem response (ABR) test results. ABR test results were compared to other audiologic test results that included: (1) word-recognition scores and performance-intensity functions of phonetically balanced word lists; and (2) perform-

ance-intensity functions of Synthetic Sentence Identification lists with ipsilateral competing messages. The results of this study indicate that the retrocochlear group performed less favourably than the cochlear group on speech measures known to be sensitive to a retrocochlear site of disorder. This study further emphasizes the complexity of presbycusis by demonstrating that peripheral hearing loss, alone, cannot account for the totality of the auditory problems that are encountered by elderly listeners. Author.

Effects of age on the adult auditory middle latency response. Chambers, R. D., Griffiths, S. K. Department of Speech and Hearing Science, University of Illinois, Champaign 61820. *Hearing Research* (1991) Jan, Vol. 51 (1), pp. 1–10.

The middle latency components of the auditory evoked response were obtained from a group of normal-hearing, healthy female subjects from 22 to 68 years of age. Recordings were made at several intensity levels to assess the level-dependence of any age-related effects. Cross-sectional analyses revealed that the amplitude of component Pa grows linearly with age, becoming significantly larger in older (50–68 years of age) compared to younger (22–37 years) subjects. The amplitude-intensity function is steeper in the older subjects by a factor of two. Correlational analyses suggested that at higher intensity levels age accounts for about 20 per cent of the variance in the amplitude of Pa. A positive shift in response baseline was observed in the older subjects, and could contribute to the age-related increase in the absolute amplitude of Pa. However, a similar increase in the peak-to-peak and area measures of Pa suggests that some of the increase in the magnitude of Pa is independent of baseline shift. A confounding of age and hearing sensitivity in this study makes it difficult to interpret the age-related effects as strictly central in nature. Author.

Electrically evoked auditory brainstem response: growth of response with current level. Abbas, P. J., Brown, C. J. Department of Speech Pathology and Audiology, University of Iowa, Iowa City 52242. *Hearing Research* (1991) Jan, Vol. 51 (1), pp. 123–37.

The electrically evoked brainstem response (EABR) was measured in cochlear implant users who had received either the Ineraid multichannel implant or the Nucleus multichannel implant. Although both implants use a multi-electrode array, they are different in a number of ways. In the Ineraid system the electrodes can be accessed directly through a percutaneous plug and stimulation is generally on four different intracochlear electrodes relative to a common ground outside the cochlea. In the Nucleus implant stimulation is accomplished via an internal coil and stimulation is bipolar between pairs along the 22 electrode array. The ABR waveforms were similar for both groups of subjects, consisting of a series of three or four positive peaks at the highest levels of stimulation. Using the normal stimulation mode (bipolar for Nucleus and monopolar for Ineraid), users of both devices demonstrated an increase in response amplitude and a decrease in response latency with increases in current level. The threshold of response tended to be higher and growth of the response with level tended to be more gradual for Nucleus users than for Ineraid users. However, with bipolar stimulation for both implant types, when the stimulating electrodes were closely spaced the threshold of response was higher and the growth of amplitude with level was more gradual than the case where the electrodes were separated further. When bipolar stimulation and similar electrode spacing was used, the response growth and threshold were similar for both implant types. Results from neither device showed a strong correlation with performance on word recognition tests. Author.

Electrically evoked auditory brainstem response: refractory properties and strength-duration functions. Abbas, P. J., Brown, C. J. Department of Speech Pathology and Audiology, University of Iowa, Iowa City 52242. *Hearing Research* (1991) Jan, Vol. 51 (1), pp. 139–47.

The electrically evoked auditory brainstem potential (EABR) was recorded in users of both the Nucleus cochlear implant and the Ineraid cochlear implant. The refractory properties of the EABR were evaluated by measuring the response amplitude to a two-pulse stimulus where the interpulse interval was varied. The threshold of response for a single pulse stimulus was also measured as a function of the duration of the biphasic pulse. These strength-duration functions were then used to calculate an EABR chronaxic measure. Both of these measures showed a similar range for the monopolar stimulation used with the Ineraid implant and the bipolar stimulation used with the Nucleus implant. Neither of these two

measures of the temporal response properties showed any clear relationship to the ability of individual subjects to perform on a speech perception task. Author.

Development of auditory brainstem evoked potentials in newborn infants: a three-channel Lissajous' trajectory study. Hafner, H., Pratt, H., Joachims, Z., Feinsod, M., Blazer, S. Evoked Potentials Laboratory, Technion-Israel Institute of Technology, Haifa. *Hearing Research* (1991) Jan, Vol. 51 (1), pp. 33–47.

Auditory brainstem evoked potentials (ABEP) were recorded from 50 newborns (35–43 weeks gestational age), using three orthogonal differential electrode pairs, in addition to the widely used vertex-mastoid derivation. Potentials were evoked by alternating polarity, 75 dBnHL clicks presented monaurally at a rate of 10/s. From the records of the three orthogonal electrode pairs (nasion-inion; vertex-spinous cervical process VII; left-right mastoids). Three-channel Lissajous' trajectories (3CLT) were derived and analyzed. Three CLT point-by-point, as well as segmental descriptors were compared with peak latencies of the vertex-mastoid derivation. Point-by-point 3CLT descriptors included apex amplitude, latency and orientation. Segmental descriptors included planar segment beginning latencies, duration and orientation. The interpretation of these results in relation to developmental aspects of the auditory system, as well as to the question of ABEP generators, is enhanced by using 3CLT descriptors of ABEP, which are more comprehensive than their single-channel counterparts. Three CLT apices correlated well with the Vertex-Mastoid defined peaks. Both peak and apex latency changes indicate that at the developmental stages surveyed in this study, development takes place in the more central portions of the pathway, whereas the peripheral portion is already relatively mature. The results also indicate a maturational change in the relative contributions of constituent generators of ABEP components. Author.

Airway responsiveness in atopic dermatitis. Barker, A. F., Hirshman, C. A., D-Silva, R., Hanifin, J. M. Department of Internal Medicine, Oregon Health Services University, Portland. *Journal of Allergy and Clinical Immunology* (1991) Apr, Vol. 87 (4), pp. 780–3.

Twelve of 123 patients with atopic dermatitis (AD) were screened by questionnaire and spirometry for the absence of smoking, hay fever, and respiratory disorders. Seven of these 12 patients had a positive methacholine challenge test. None of eight patients with another skin disorder, psoriasis, screened in a similar fashion, had a positive methacholine challenge. We conclude that hyperresponsive airways are a frequent finding in patients with AD and that similar mechanisms may account for the cutaneous physiologic and pharmacologic abnormalities that have been observed in AD. Author.

A method for estimating the Young's modulus of complete tracheal cartilage rings. Lambert, R. K., Baile, E. M., Moreno, R., Bert, J., Pare, P. D. Department of Physics and Biophysics, Massey University, Palmerston North, New Zealand. *Journal of Applied Physiology* (1991) Mar, Vol. 70 (3), pp. 1152–9.

Cartilage is primarily responsible for maintaining the stability of the large airways; yet very little is known about the mechanical properties of airway cartilage. This work establishes a technique whereby average values for the equilibrium modulus of excised tracheal cartilage rings can be obtained. An apparatus was designed to apply present deformations to a tracheal segment and to monitor the deforming force. Segments of four human tracheae obtained postmortem and containing three rings were mounted in the apparatus after being stripped of posterior membrane. The load-deformation behaviour was analyzed with a model on the basis of thin curved beam theory. Agreement between predicted deformed shapes and those observed was good in three of the four cases and in the case of a short length of longitudinally split rubber tube. The technique is suitable for comparing mechanical properties of cartilage before and after an intervention. Author.

Thoracic traction on the trachea: mechanisms and magnitude. Van de Graaff, W. B. Department of Medicine, Stritch School of Medicine, Loyola University of Chicago, Maywood, Illinois 60153. *Journal of Applied Physiology* (1991) Mar, Vol. 70 (3), pp. 1328–36.

Both inspiratory increases and tonic thoracic traction (pull of the thorax) on the trachea (Ttx(tr)) have been shown to improve

patency of the upper airway. To evaluate the origins and magnitude of Ttx(tr), we studied 15 anesthetized tracheotomized dogs. We divided the midcervical trachea and attached the thoracic stub to a strain gauge. Ttx(tr), esophageal pressure, and carinal displacement were observed during various conditions. These included unobstructed and obstructed spontaneous breathing, mechanical ventilation at various levels of positive end-expiratory pressure, and progressive hypercapnic stimulation. Observations during spontaneous breathing were performed before and after vagotomy. We found that inspiratory increases in Ttx (tr) were substantial, averaging 81 ± 8 g force and increasing to 174 ± 22 g force at an end-expiratory CO₂ concentration of 10 per cent. Ttx(tr) did not result simply from the pull of mediastinal and pulmonary structures transmitted through the carina. Changes in intrathoracic pressure acted independently to either draw the trachea into or push the trachea out of the thorax. Thus Ttx(tr) could be explained as the sum of mediastinal traction and force generated by changes in intrathoracic pressure. Author.

Maximum airflow through the nose in humans. Pertuze, J., Watson, A., Pride, N. B. Department of Medicine, Royal Postgraduate Medical School, Hammersmith Hospital, London, United Kingdom. *Journal Applied Physiology* (1991) Mar, Vol. 70 (3), pp. 1369–76.

Inspiratory and expiratory flow via the nose and via the mouth during maximum-effort vital capacity (VC) maneuvers have been compared in 10 healthy subjects. Under baseline conditions maximum flow via the nose was lower than that via the mouth in the upper 50 to 60 per cent of the VC on expiration and throughout the VC on inspiration. The mean ratio of maximum inspiratory to maximum expiratory flow at mid-VC was 1.38 during mouth breathing and 0.62 during nasal breathing. Inspiratory flow limitation with no increase in flow through the nose as driving pressure was increased above a critical value (usually between 12 and 30 cmH₂O) was found in all six subjects studied. Stenting the alae nasi in seven subjects increased peak flow via the nose from a mean of 3.49 to 4.32 l/s on inspiration and from 4.83 to 5.61 l/s on expiration. Topical application of an alpha-adrenergic agonist in seven subjects increased mean peak nasal flow on inspiration from 3.25 to 3.89 l/s and on expiration from 5.03 to 7.09 l/s. Further increases in peak flow occurred with subsequent alar stenting. With the combination of stenting and topical mucosal vasoconstriction, nasal-peak flow on expiration reached 81 per cent and, on inspiration, 79 per cent of corresponding peak flows via the mouth. The results demonstrate that narrowing of the alar vestibule and the state of the mucosal vasculature both influence maximum flow through the nose; under optimal conditions, nasal flow capacity is close to that via the mouth. Author.

Posterior cricoarytenoid activity in normal adults during involuntary and voluntary hyperventilation. Kuna, S. T., Day, R. A., Insalaco, G., Villeponteaux, R. D. Department of Internal Medicine, University of Texas Medical Branch, Galveston 77550. *Journal of Applied Physiology* (1991) Mar, Vol. 70 (3), pp. 1377–85.

The effect of isocapnic hypoxia and hyperoxic hypercapnia on the electrical activity of the posterior cricoarytenoid (PCA) muscle was determined in eight normal adult humans by use of standard rebreathing techniques and was compared with PCA activity during voluntary hyperventilation performed under isocapnic and hypocapnic conditions. PCA activity was recorded with intramuscular hooked-wire electrodes implanted through a fiberoptic nasopharyngoscope. During quiet breathing in all subjects, the PCA was phasically active on inspiration and tonically active throughout the respiratory cycle. At comparable increments in respiratory output, hypercapnia, hypoxia, and voluntary hyperventilation appeared to be associated with similar increases in phasic or tonic PCA activity. During quiet breathing, the onset of phasic PCA activity usually occurred before inspiratory airflow and extended beyond the start of expiratory airflow. The duration of phasic PCA reactivation and postinspiratory phasic PCA activity remained unchanged during progressive hypercapnia and progressive hypoxia. The results, in combination with recent findings for vocal cord adductors, suggest that vocal cord position throughout the respiratory cycle during hyperpnea is actively controlled by simultaneously acting and antagonistic intrinsic laryngeal muscles. Author.

Inverted squamous papilloma with neuro-ophthalmic features.

Peterson, I. M., Heim, C. Department of Pathology, Truman Medical Centre, Kansas City, Missouri 64108. *Journal of Clinical Neurology and Ophthalmology* (1991) Mar, Vol. 11 (1), pp. 35–8. The schneiderian or inverted papilloma is an infrequent and usually benign tumour of the paranasal sinuses. It most commonly manifests as unilateral nasal obstruction. This is a case of an inverted papilloma in a 92-year-old woman who presented with severe proptosis, loss of vision in the left eye, and rhinorrhoea. The mass was visible in her left nostril; neuroimaging studies showed that the lesion extended from the left paranasal sinus into the frontal sinuses. In addition, there was secondary spread into the cranial cavity and brain substance. Author.

An alternative for nasal tip reconstruction: the bilateral rotation flap. Greenbaum, S. S., Greenbaum, C. H. Department of Dermatology, Thomas Jefferson University, Philadelphia, Pennsylvania. *Journal of Dermatologic Surgery and Oncology* (1991) May, Vol. 17 (5), pp. 455–9.

A large percentage of the skin tumours that dermatologic surgeons treat are located on the nose. Of these, a significant percentage are located on the nasal tip. The nasal tip is notoriously difficult to reconstruct and we present a bilateral rotation flap that may be useful in some instances for reconstruction of this area. Author.

Nasalis myocutaneous sliding flap: repair of nasal supratip defects. Constantine, V. S. Bakersfield Dermatology and Skin Cancer Medical Group, CA. *Journal of Dermatologic Surgery and Oncology* (1991) May, Vol. 17 (5), pp. 439–44.

The nasalis myocutaneous sliding flap ('nasalis flap') is an axial island flap based on the branch of the angular artery that supplies the nasalis muscle. The technique for performing this flap for the repair of defects up to 1.5 cm in diameter on the supratip area of the nose is described in detail. Twenty-four cases with supratip defects following Mohs surgery repaired with the nasalis flap are reported. Flap survival was 100 per cent and final cosmetic results were excellent. It is concluded that the nasalis flap should always be considered for the repair of defects of the supratip area of the nose. Author.

Brain-stem auditory evoked responses in 56 patients with acoustic neurinoma. Grabel, J. C., Zappulla, R. A., Ryder, J., Wang, W. J., Malis, L. I. Department of Neurosurgery, Mount Sinai School of Medicine, New York, New York. *Journal of Neurosurgery* (1991) May, Vol. 74 (5), pp. 749–53.

The brain-stem auditory evoked responses (BAER's) recorded from 56 patients with acoustic neurinomas were analyzed. Ten of the patients had intracanalicular tumours and 46 had extracanalicular tumours. It was possible to obtain BAER's following stimulation of the affected side in 28 patients and after stimulation of the unaffected side in all 56. Five patients (11 per cent) had normal BAER's following stimulation of both sides; three of these patients had intracanalicular tumours. Among BAER's obtained following stimulation of the affected ear, the mean interpeak latency (IPL) for peaks I to III associated with extracanalicular tumours was significantly prolonged relative to controls (P than 0.001), and linear regression analysis revealed a significant positive correlation between tumour size and IPL of peaks I to III (P than 0.05). Analysis of the 56 BAER's recorded after stimulation of the unaffected side revealed a significant positive correlation between the IPL's of peaks III to V and tumour size (P than 0.001). This correlation was not strengthened when accounting for the degree of brain-stem compression. Finally, evidence of preserved function within the auditory pathway, even in the presence of partial hearing loss, is presented. This finding suggests that more patients might benefit from surgical procedures that spare the eighth cranial nerve. Author.

Bilateral cerebellopontine angle tumours in neurofibromatosis type 2. Baldwin, D., King, T. T., Chevetton, E., Morrison, A. W. Department of Otolaryngology, Royal London Hospital, Whitechapel, England. *Journal of Neurosurgery* (1991) Jun, Vol. 74 (6), pp. 910–5.

In a series of over 500 cases of cerebellopontine angle tumours, 19 patients had bilateral neurinomas. Four of these tumours arose from the facial rather than the acoustic nerve. A conservative policy regarding surgery had been adopted in an effort to prevent hearing loss for as long as possible. Nevertheless, all patients operated on in this series are now totally deaf. The results of managing these patients surgically and conservatively are discussed. Author.

Induction chemotherapy plus radiation compared with surgery plus radiation in patients with advanced laryngeal cancer. The Department of Veterans Affairs Laryngeal Cancer Study Group. *England Journals of Medicine* (1991) Jun 13, Vol. 324 (24), pp. 1685–90.

Background: We performed a prospective, randomized study in patients with previously untreated advanced (Stage III or IV) laryngeal squamous carcinoma to compare the results of induction chemotherapy followed by definitive radiation therapy with those of conventional laryngectomy and postoperative radiation. Methods: Three hundred and thirty-two patients were randomly assigned to receive either three cycles of chemotherapy (cisplatin and fluorouracil) and radiation therapy or surgery and radiation therapy. The clinical tumour response was assessed after two cycles of chemotherapy, and patients with a response received a third cycle followed by definitive radiation therapy (6600 to 7600 cGy). Patients in whom there was no tumour response or who had locally recurrent cancers after chemotherapy and radiation therapy underwent salvage laryngectomy. Results: After two cycles of chemotherapy, the clinical tumour response was complete in 31 per cent of the patients, and partial in 54 per cent. After a median follow-up of 33 months, the estimated two-year survival was 68 per cent (95 per cent confidence interval, 60 to 76 per cent) for both treatment groups ($p = 0.9846$). Patterns of recurrence differed significantly between the two groups, with more local recurrences ($p = 0.0005$) and fewer distant metastases ($p = 0.016$) in the chemotherapy group than in the surgery group. A total of 59 patients in the chemotherapy group (36 per cent) required total laryngectomy. The larynx was preserved in 64 per cent of the patients overall and 64 per cent of the patients who were alive and free of disease. Conclusions: These preliminary results suggest a new role for chemotherapy in patients with advanced laryngeal cancer and indicate that a treatment strategy involving induction chemotherapy and definitive radiation therapy can be effective in preserving the larynx in a high percentage of patients, without comprising overall survival. Author.

Progressive deterioration of auditory evoked potentials after excision of an acoustic neurinoma: case report. Sekiya, T., Iwabuchi, T., Takiguchi, M., Ichijo, H., Sasaki, H. Department of Neurosurgery, Hirosaki University School of Medicine, Japan. *Neurosurgery* (1991) Apr, Vol. 28 (4), pp. 566–9; discussion 569–70.

The authors report the case of a 17-year-old girl who underwent excision of bilateral neurinomas of the cerebellopontine angle. Although her auditory evoked potentials were well maintained during the operation, they deteriorated gradually and progressively for the following two months. This seemed to reflect degeneration of the cochlear nerve fibres initiated by operative manipulation in the cerebellopontine angle in a patient who had no hearing when she awoke from surgery. Author.

Delayed hearing loss after surgery for acoustic neurinomas: clinical and electrophysiological observations. Strauss, C., Fahlbusch, R., Romstock, J., Schramm, J., Watanabe, E., Taniguchi, M., Berg, M. Department of Neurosurgery, University of Erlangen-Nurnberg, Federal Republic of Germany. *Neurosurgery* (1991) Apr, Vol. 28 (4), pp. 559–65.

In a series of 26 patients with medium-sized and large acoustic neurinomas and documented hearing before surgery, seven patients had preservation of hearing initially after the procedure but then developed delayed hearing loss. The most predominant intraoperative electrophysiological finding in these cases was a gradual deterioration of brain stem auditory evoked potentials (BAEP), especially of Wave V. Four additional patients with a similar gradual intraoperative loss of BAEP and severe postoperative hearing deterioration received vasoactive treatment after surgery (low-molecular weight dextran). In all four patients, including one patient with documented total deafness after surgery, hearing was preserved. Initial preservation of cochlear nerve function after the removal of an acoustic neurinoma does not guarantee postoperative hearing. Intraoperative BAEP help to identify patients at risk for delayed postoperative hearing loss. The pathophysiological mechanism can be attributed to disturbances of the microcirculation in endoneurial vasa nervorum caused by the mechanical manipulation of the cochlear nerve. Author.

T1-T2 carcinoma of the glottis: relative hypofractionation. Randall, M. E., Springer, D. J., Raben, M. Department of Radiology, Bowman Gray School of Medicine, Wake Forest University, Winston-Salem, NC 27103. *Radiology* (1991) May, Vol. 179 (2), pp. 569-71. Radiation therapy, the preferred primary treatment for early squamous cell carcinoma of the glottis, offers high local control rates with voice preservation; however, the optimal treatment schedule is subject to debate. Local control, with and without surgical salvage, and associated long-term effects and complications were retrospectively analyzed in 90 patients treated with definitive radiation therapy for T1-T2 squamous cell carcinoma of the glottis. Patients received three weekly fractions of 333 cGy to a total dose of 60 Gy in six weeks. Median follow-up was 51.5 months. With radiation therapy alone, local control was 92 per cent for T1 disease and 88 per cent for T2; with surgical salvage, the control rate was 99 per cent. Long-term effects included moderate hoarseness (16 per cent of patients) and moderate or severe laryngeal edema (10 per cent of patients). In seven patients who underwent salvage surgery, the complication rate was 29 per cent. Despite excellent local control, this regimen may produce more long-term effects and complications than conventional fractionation. Author.

Non-neoplastic enhancing lesions mimicking intracanalicular acoustic neuroma in gadolinium-enhanced MR images. Han, M. H., Jabour, B. A., Andrews, J. C., Canalis, R. F., Chen, F., Anzai, Y., Becker, D. P., Lufkin, R. B., Hanafee, W. N. Department of Radiology, University of California, Los Angeles, School of Medicine 90024-1721. *Radiology* (1991) Jun, Vol. 179 (3), pp. 795-6. The authors describe five patients with non-neoplastic lesions of the facial and/or vestibulocochlear nerves that demonstrated focal enhancement within the internal auditory canal on magnetic resonance (MR) images. MR and surgical findings for four patients with unilateral sensorineural hearing loss and one with Ramsay Hunt syndrome were reviewed. Three patients with hearing loss underwent surgical exploration and decompression of the internal auditory canal. The MR findings in all four patients with hearing loss were similar: Focal enhancement of the internal auditory canal was depicted on postcontrast T1-weighted images. Non-neoplastic lesions of the seventh and eighth cranial nerves may show focal enhancement on MR images, which mimics the appearance of a small intracanalicular neuroma. This potential for misdiagnosis may have important therapeutic implications. Author.