

Abstract Selection

A double-blind, placebo-controlled study of immunotherapy with an alginate-conjugated extract of *Parietaria judaica* in patients with *Parietaria hay fever*. Ortolani, C., Pastorello, E. A., Incorvaia, C., Spano, M., Farioli, L., Zara, C., Pravettoni, V., Zanussi, C. First Department of Internal Medicine, University of Milan, Italy. *Allergy* (1994) January, Vol. 49 (1), pp. 13–21.

A double-blind, placebo-controlled study was conducted to evaluate the efficacy and safety of immunotherapy (IT) with a partially purified alginate-conjugated extract of *Parietaria judaica* (Conjuvac *Parietaria*, Dome/Hollister-Stier) in patients suffering from rhinoconjunctivitis caused by *Parietaria* pollen. Eighteen patients (10 women, eight men, mean age 35 years) received active treatment and 17 (10 women, seven men, mean age 42.5 years) received placebo. Actively treated patients had significantly lower nasal symptom/medication scores (running nose $P = 0.0087$ and sneezing $P = 0.048$) during the *Parietaria* pollen season. Significant decreases in specific skin ($P < 0.01$), nasal ($P < 0.05$), and conjunctival ($P < 0.01$) reactivity to the *Parietaria* extract and significant increases of specific IgG ($P < 0.001$), IgG1 ($P < 0.001$), and IgG4 ($P < 0.001$) in actively treated patients, but not in placebo, were found. IT was well tolerated, the active extract inducing five mild systemic reactions (four rhinitis and one urticaria) and placebo two (rhinitis). A significant correlation was found between low skin reactivity and high specific IgG ($P = 0.0002$) and IgG4 ($P = 0.036$). These findings indicate that IT with a partially purified *P. judaica* extract is an effective and safe treatment for *Parietaria* pollen allergy. The correlation between low immediate skin reactivity and high specific IgG and IgG4 suggests that, at least in the studied cutaneous model, these antibodies may exert a blocking effect. Author.

A double-blind group comparative study of ophthalmic sodium cromoglycate, two per cent four times daily and four per cent twice daily, in the treatment of seasonal allergic conjunctivitis. Leino, M., Montan, P., Nja, F. Department of Ophthalmology, Kuopio University Hospital, Finland. *Allergy* (1994) March, Vol. 49 (3), pp. 147–51.

In a multicentre, double-blind, single-dummy, group-comparative study, 169 patients received ophthalmic sodium cromoglycate two per cent four times daily, and 170 patients received four per cent ophthalmic sodium cromoglycate twice daily, together with placebo eye-drops twice daily, for the treatment of seasonal allergic conjunctivitis (SAC) to birch pollen. The treatment period was four weeks during the birch pollen season. Daily pollen counts were used to identify the peak 14 d period. Clinical examinations were made before the start of treatment, after one week of treatment, and at the end of the treatment period. Patients kept daily diary record cards of eye symptom severity and concomitant therapy. Symptoms were generally mild and, except for chemosis (week 4) and soreness (weeks 2 and 3), which were less in the four per cent group ($P < \text{or} = 0.05$), no significant treatment differences were seen for symptoms or for antihistamine rescue therapy. Both treatments were considered to be very or moderately effective by more than 90 per cent of patients, and no treatment differences occurred in either clinicians' or patients' opinions of efficacy. The results indicate that the use of four per cent sodium cromoglycate eye-drops twice daily is as effective and well tolerated as two per cent sodium cromoglycate four times daily in the treatment of birch-pollen conjunctivitis. Author.

Comparative efficacy of azelastine nasal spray and terfenadine in seasonal and perennial rhinitis. Gastpar, H., Nolte, D., Aurich, R., Brendt, P., Enzmann, H., Giesemann, G., Kunkel, G., Petzold, U., Renz, W., Schata, M., *et al.* Universitäts-Hals-Nasen-Ohrenklinik München, Germany. *Allergy* (1994) March, Vol. 49 (3), pp. 152–8.

The efficacy and tolerability of intranasal azelastine (0.14 mg/nos-tril twice daily) and oral terfenadine (60 mg twice daily) were com-

pared under double-blind conditions in two six-week, multicentre, parallel-group studies, including 167 patients suffering from seasonal and 52 patients suffering from perennial allergic rhinitis. In both studies, patients were symptomatic on entry and showed significant improvement on both treatments within the first 8 d of therapy, showing little further improvement with continued treatment. Symptoms most pronounced on entry—nasal itching, rhinorrhea, sneezing, and nasal obstruction—responded best to treatment (response rates 80–90 per cent). Objective signs such as mucosal swelling and conjunctivitis improved in a manner parallel to symptoms. In perennial rhinitis, azelastine showed a trend to a superior relief of rhinorrhea and nasal obstruction, whereas terfenadine showed a trend toward better control of sneezing and nasal itchiness. No clinically relevant or statistically significant differences between treatments could be identified. The incidence of adverse effects of possible causal relationship to therapy was low. The most frequent effects in azelastine-treated patients were related to application site disorders, e.g. nasal irritation. Results indicate that with the dose used azelastine nasal spray is an effective treatment for both seasonal and perennial allergic rhinitis. Author.

Nasal application of a gel formulation of N-acetyl-aspartyl glutamic acid (NAAGA) compared with placebo and disodium cromoglycate in the symptomatic treatment of pollinosis. Althaus, M. A., Pichler, W. J. Clinical Research Department, Zyma SA, Nyon, Switzerland. *Allergy* (1994) March, Vol. 49 (3), pp. 184–8.

A gel formulation of the antiallergic compound N-acetyl-aspartyl glutamic acid (NAAGA) (Rhinaaxia (R)) has been evaluated in a multicentre, randomized, double-blind, three-arm, parallel-group comparison with placebo gel (P) and disodium cromoglycate (DSCG) in outpatients suffering from seasonal allergic rhinitis (pollinosis). Nose and eye symptoms were assessed daily by the patients on visual analog scales (VAS), and medical examinations were held after one week and at the end of the four-week treatment. The use of rescue medications (H1-antagonist (terfenadine) and soothing eye-drops (Spersallerg) was recorded as a main assessment indicator of efficacy. For the efficacy analysis, only the periods with relevant pollen concentrations ($> \text{or} = 50 \text{ grains/m}^3$) were considered. The study extended over the two pollen seasons 1989 and 1990. Of 230 included patients, 190 were suitable for efficacy analysis ($R = 63$, $P = 64$, $DSCG = 63$). The VAS data did not reveal a difference between the treatment groups for nasal symptoms, whereas the use of terfenadine tablets was significantly lower in the Rhinaaxia group than in either the placebo ($P = 0.0001$) or DSCG group ($P = 0.03$). The eye symptoms were significantly less severe in the Rhinaaxia group than in both placebo ($P = 0.0001$) and DSCG ($P < 0.01$) groups. In addition, the use of rescue medication was significantly higher in the placebo than in the Rhinaaxia treatment group ($P = 0.0001$). The incidence of local untoward effects (itching/burning sensation in the nose) was slightly higher in the Rhinaaxia group, while the overall tolerability assessment was similarly good in all three treatment groups. Author.

Frequent NF2 gene transcript mutations in sporadic meningiomas and vestibular schwannomas. Lekanne-Deprez, R. H., Bianchi, A. B., Groen, N. A., Seizinger, B. R., Hagemeyer, A., van Drunen, E., Bootsma, D., Koper, J. W., Avezaat, C. J., Kley, N., *et al.* Department of Pathology, Erasmus University, Rotterdam, The Netherlands. *American Journal of Human Genetics* (1994) June, Vol. 54 (6), pp. 1022–9.

The gene for the hereditary disorder neurofibromatosis type 2 (NF2), which predisposes for benign CNS tumors such as vestibular schwannomas and meningiomas, has been assigned to chromosome 22 and recently has been isolated. Mutations in the NF2 gene were found in both sporadic meningiomas and vestibular schwannomas.

However, so far only 6 of the 16 exons of the gene have been analyzed. In order to extend the analysis of an involvement of the NF2 gene in the sporadic counterparts of these NF2-related tumours, we have used reverse transcriptase-PCR amplification followed by SSCP and DNA sequence analysis to screen for mutations in the coding region of the NF2 gene. Analysis of the NF2 gene transcript in 53 unrelated patients with meningiomas and vestibular schwannomas revealed mutations in 32 per cent of the sporadic meningiomas ($n = 44$), in 50 per cent of the sporadic vestibular schwannomas ($n = 4$), in 100 per cent of the tumours found in NF2 patients ($n = 2$), and in one of three tumours from multiple-meningioma patients. Of the 18 tumours in which a mutation in the NF2 gene transcript was observed and the copy number of chromosome 22 could be established, 14 also showed loss of (parts of) chromosome 22. This suggests that in sporadic meningiomas and NF2-associated tumours the NF2 gene functions as a recessive tumour-suppressor gene. The mutations detected resulted mostly in frameshifts, predicting truncations starting within the N-terminal half of the putative protein. Author.

A 'bubble-tip' (Airguide) tracheal tube system: its effects on incidence of epistaxis and ease of tube advancement in the subglottic region during nasotracheal intubation. Watanabe, S., Yaguchi, Y., Suga, A., Asakura, N. Department of Anesthesia, Pain Control and Clinical Toxicology, Mito Saiseikai General Hospital, Ibaraki, Japan. *Anesthesia and Analgesics* (1994) June, Vol. 78 (6), pp. 1140-3.

Epistaxis and tubal obstruction in the subglottic region are difficulties encountered during nasotracheal intubation. Trauma to the nasal airway must be avoided, especially in patients receiving anti-coagulant therapy. In addition, smooth passage of the tracheal tube through the larynx is desired. The tip of an Airguide tracheal tube system has a soft, round, glossy balloon head which should be less traumatic to the nasal mucosa than other more commonly used tubes. We, therefore, determined whether the Airguide reduces the incidence of epistaxis and increases smooth passage of the tracheal tube in the subglottic region during nasotracheal intubation. Sixty-six patients were divided into two groups, Airguide ($n = 39$) and Standard ($n = 27$). Each group was divided into two subgroups, topical epinephrine application as a mucosal decongestant and non-epinephrine. The incidences of epistaxis and smooth passage were compared between the two groups. The Airguide group had a significantly lower incidence of epistaxis (9/39 vs 13/26; $P < 0.05$); bleeding was not checked in one patient in the Standard group and provided a significantly smoother passage in the subglottic region than the Standard group (tube impingement in the subglottic region, 0/39 vs 11/27; $P < 0.01$). There was no significant difference in the incidence of epistaxis between the subgroups with and without topical application of epinephrine. The Airguide helps to minimize epistaxis and increases navigability in the subglottic region during nasotracheal intubation. Author.

Serum immunoglobulins and IgG subclass levels in adults with chronic sinusitis: evidence for decreased IgG3 levels. Armenaka, M., Grizzanti, J., Rosenstreich, D. L. Department of Medicine, Albert Einstein College of Medicine, Bronx, New York. *Annals of Allergy* (1994) June, Vol. 72 (6), pp. 507-14.

Serum immunoglobulin class and IgG subclasses were measured in 30 adult patients with chronic sinusitis documented by CT scans of the paranasal sinuses. Results were compared to 30 age- and sex-matched patients with chronic rhinitis who had normal sinus CT scans, and a matched group of asymptomatic, healthy subjects. None of the patients was taking oral corticosteroids and none had ever received allergen immunotherapy. IgA deficiency was present in three per cent (2/60) of the patients with chronic rhinitis or sinusitis and IgG deficiency was seen in another two (three per cent). None of the normals had low IgA or IgG. Low levels of IgG1 or IgG3 were found in some patients in all three groups, while none had low IgG2 levels. Serum levels of IgG, IgA, IgM, IgG1, IgG2 and IgG4 were not significantly different between the groups. Mean serum IgG3 levels, however, were significantly lower in the chronic sinusitis group than the chronic rhinitis group ($P < 0.003$) or the normals ($P < 0.0005$). The incidence of below normal levels of IgG3 was also more frequent in chronic sinusitis than in chronic rhinitis ($P < 0.04$) or normals ($P < 0.002$). Patients in the chronic sinusitis group had a high incidence of asthma (57 per cent) and atopy (45 per cent) but there was no difference in immunoglobulin class or IgG subclass levels in matched asthmatics compared with nonasthmatic patients with chronic sinusitis. Atopic patients with chronic sinusitis had a

higher frequency of IgG3 subclass deficiency than nonatopics ($P = 0.04$). Normalization of low immunoglobulin class or IgG subclass levels that coincided with clinical improvement was documented in two patients with sinusitis. Author.

Efficacy of pseudoephedrine for the prevention of barotrauma during air travel. Csorban, E., Jones, J., Haan, M., Brown, M. Emergency Medicine Residency Program, Butterworth Hospital, Grand Rapids. *Annals of Emergency Medicine* (1994) June, Vol. 23 (6), pp. 1324-7.

STUDY OBJECTIVE: To determine the efficacy of decongestant prophylaxis in the prevention of symptoms of middle ear barotrauma (aerotitis media) during air travel. **DESIGN:** Prospective, parallel, double-blind, randomized trial. **SETTING:** Two commercial airports in Michigan. **TYPE OF PARTICIPANTS:** Two hundred fifty volunteers with a history of recurrent ear discomfort during air travel. **INTERVENTIONS:** Following randomization, each subject received 120 mg pseudoephedrine or placebo 30 minutes before flight departure. Recorded data included subject demographics, history of ear discomfort, and otologic examination. After arrival at their final destinations, volunteers were asked to complete a questionnaire and return it by mail to the investigators. Questions included the intensity and duration of otologic symptoms experienced while flying and possible drug side effects. **MEASUREMENTS AND MAIN RESULTS:** One hundred ninety subjects completed the study; 96 received 120 mg of pseudoephedrine and 94 received at placebo. The two treatment groups were similar with regard to age, sex, weight, and flight profile ($P > 0.1$). Ear discomfort was present in 32 per cent (31 of 96) of those receiving pseudoephedrine versus 62 per cent (58 of 94) of the control group ($\chi^2 = 15.34$; $P = 0.0001$). Adverse effects were minimal; seven patients experienced drowsiness. **CONCLUSION:** Our results suggest that use of an oral decongestant before flying decreases the incidence of middle ear barotrauma associated with ambient pressure changes during air travel. Author.

Definitive diagnosis and location of peanuts in the airways using magnetic resonance imaging techniques. Imaizumi, H., Kaneko, M., Nara, S., Saito, H., Asakura, K., Akiba, H. Department of Traumatology and Critical Care Medicine, School of Medicine, Sapporo Medical University, Japan. *Annals of Emergency Medicine* (1994) June, Vol. 23 (6), pp. 1379-82.

A 14-month-old boy suspected to have aspirated peanut fragments into the airways was transferred to our hospital. His chest radiographs revealed Holznecht's sign, which indicated left mainstem bronchial obstruction. Magnetic resonance imaging with T1-weighted images clearly showed a high-intensity signal of peanut fragments in the left mainstem bronchus. Removal was performed by bronchoscopy in a shorter time under general anesthesia. Magnetic resonance imaging with T1-weighted images (T1W1) is useful for definitive diagnosis and location of peanut fragments in the lower airway because the peanut material appears as a high-intensity signal surrounded by the low-intensity lung tissue. Various slice orientations of T1W1 provide accurate information concerning anatomic location of such fragments, thus facilitating removal by bronchoscopy. Author.

Otological complications of herpes zoster. Adour, K. K. Department of Head and Neck Surgery, Kaiser Permanente Medical Center, Oakland, CA 94611. *Annals of Neurology* (1994), Vol. 35 Suppl. pp. S62-4.

Otological complications of varicella-zoster virus (Ramsay Hunt syndrome) include facial paralysis, tinnitus, hearing loss, hyperacusis (dysacusis), vertigo, dysgeusia, and decreased tearing. Cranial nerves V, IX, and X are often affected. Gadolinium-enhanced magnetic resonance imaging demonstrates enhancement of the geniculate ganglion and facial nerve. These manifestations are identical to Bell's palsy but are more severe and carry a graver prognosis. Eight per cent of Bell's palsy patients eventually are diagnosed as 'zoster sine herpete'. A new case of Ramsay Hunt syndrome will occur every 52 minutes, compared to every 10 minutes for a new case of Bell's palsy. Author.

Comparative study of auricular dimensions for the normal auricles of microtia patients, their parents, and normal individuals. Matsuka, K., Hata, Y., Yano, K., Ito, O., Matsuda, H., Furuichi, H., Maeda, F. Department of Plastic Surgery, Kagawa Medical School, Japan. *Annals of Plastic Surgery* (1994) February, Vol. 32 (2), pp. 135-40.

We measured the dimensions of the normal auricle in microtia patients and those of both auricles in their parents, and compared the findings with data obtained in normal individuals. The physiological auricular length and width dimensions of the normal auricles in microtia patients were significantly smaller than those in normal individuals. The auricular length of the parents of microtia patients was also significantly smaller than in normal individuals. The auricles of the parents on the same side as those affected by microtia in the patients tended to be smaller than those on the contralateral side. Author.

The role of preserved autogenous cartilage graft in septorhinoplasty. Guyuron, B., Friedman, A. Case Western Reserve University, Cleveland, OH. *Annals of Plastic Surgery* (1994) March, Vol. 32 (3), pp. 255–60.

Previous reports have established the role of fresh autogenous cartilage grafts harvested at the time of surgery. This report describes the value of autogenous preserved cartilage, removed and stored at the time of initial surgery, for use in secondary surgery. This study also compares fresh and preserved cartilage used in crushed and noncrushed states in secondary rhinoplasties. From 1983 to 1990, 256 of 1185 patients who had undergone septorhinoplasty required a revision procedure. Cartilage graft was used in 186 (72.7 per cent) patients. Cartilage removed during the primary surgery was stored in a saline and antibiotic solution at 0 degree F to two degrees F. The average time interval from primary to secondary surgery was 11.97 months (SD, 10.63 mo). Follow-up after graft placement averaged 44.71 months (SD, 26.21 mo). Two hundred seventy-seven pieces of cartilage were used, consisting of 16 noncrushed fresh, 136 crushed fresh, eight noncrushed preserved, and 117 crushed preserved. Graft success rate was 93.8 per cent for noncrushed fresh cartilage grafts, 87.5 per cent for crushed fresh, 87.5 per cent for noncrushed preserved, and 85.5 per cent for crushed preserved graft. We conclude that preserved autogenous cartilage retains almost as much graft volume as fresh cartilage in rhinoplasties and eliminates the need for harvesting a graft. Cartilage removed during nasal surgery, particularly when a septoplasty is being performed, is valuable and should be stored for possible later use. Author.

Determination of the viability of crushed cartilage grafts: clinical implications for wound healing in nasal surgery. Bujia, J. Department of Otorhinolaryngology, Head and Neck Surgery, Ludwig-Maximilians University of Munich, Germany. *Annals of Plastic Surgery* (1994) March, Vol. 32 (3), pp. 261–5.

Transplantation of uncrushed and crushed cartilage has assumed a role of great importance in reconstructive surgery of the nose. There are many divergent and contradictory opinions with regard to the outcome of cartilage, so we formulated this study to assess the functional state of chondrocytes in severely and mildly crushed as well as uncrushed and cut cartilage. Crushing and cutting leads to necrosis of a part of the graft. More of the cartilage cells are irreversibly damaged by crushing. The proportion of surviving cells, depending on the severity of crushing, is between 10 and 30 per cent. In contrast to this, after cutting most of the cells remained viable and were able to proliferate. It is concluded that crushed cartilage not only remains unviable but is also not able to produce new cartilage; therefore, it will be subjected to resorption processes and not be useful for the reconstruction of parts of the nasal skeleton that support mechanical stress. Author.

Extended anterior thigh flaps for repair of massive cervical defects involving pharyngoesophagus and skin: an introduction to the 'mosaic' flap principle. Koshima, I., Yamamoto, H., Moriguchi, T., Orita, Y. Department of Plastic and Reconstructive Surgery, Kawasaki Medical School, Okayama, Japan. *Annals of Plastic Surgery* (1994) March, Vol. 32 (3), pp. 321–7.

'Mosaic' flaps, i.e., connected anteromedial thigh-groin flaps, and connected anterolateral thigh-medial thigh flaps, the pedicles of which are the perforators of the lateral circumflex femoral system, the superficial circumflex iliac vessels, and the perforators from the femoral vessels are used to repair cervical skin defects involving the pharyngoesophagus. Although they appear to be similar to 'siamese' flaps, these mosaic flaps are a new concept because they consist of two adjacent flaps that are simultaneously elevated with double pedicles including the lateral circumflex femoral system. The pedicles of the groin or the medial thigh flaps are anastomosed to the muscle branch or the descending branch of the lateral circumflex femoral system, which is the pedicle of the anterior thigh flaps, and the system is joined to a single recipient vessel as a 'bridge' flap. The

main advantages of these mosaic flaps are (1) they offer single recipient vessels, (2) they offer a larger extension of the vascular territory of a skin flap, and (3) they offer the possibility of creating custom-made composite flaps such as musculocutaneous and osteocutaneous flaps, and (4) the elevation of the flaps simultaneous with head and neck tumour resection is possible. Based on cited cases, it is suggested that mosaic flaps are suitable to use for reconstruction of massive cervical defects involving the cervical skin and the pharyngoesophagus due to recurrent laryngeal carcinomas. Author.

Malignant acoustic schwannoma. Mrak, R. E., Flanigan, S., Collins, C. L. Department of Pathology, Department of Veterans Affairs Medical Center, Little Rock, AR. *Archives of Pathology and Laboratory Medicine* (1994) May, Vol. 118 (5), pp. 557–61.

An unusual pleomorphic tumour was resected from the cerebellopontine angle of a 40-year-old man with no stigmata of neurofibromatosis. The tumour showed multinucleated giant cells scattered amid smaller, slightly elongated cells. The tumour showed a rudimentary fascicular pattern containing some looser areas but no nuclear palisading. A diagnosis of Schwann cell tumour was made based on ultrastructural findings and on immunoreactivity for S100 protein. Malignancy was suggested by the extreme pleomorphism of the tumour, by the presence of tripolar mitotic figures, and by flow cytometric demonstration of aneuploidy and of a significant proportion of S-phase tetraploid nuclei (nine per cent). Ten months after the first operation, the tumour had regrown to its original size, and was again resected. The histologic and ultrastructural appearances were similar to those of the first specimen, but flow cytometric analysis now showed a double aneuploid population of nuclei and showed 12 per cent of the nuclei in tetraploid S phase. Within 11 months of the second operation, the tumour had regrown to an estimated size of 22 cm³. Four months of radiotherapy subsequently halted tumour growth, but additional lesions appeared in the cervical and high thoracic areas. Author.

Physical examination and arteriography in patients with penetrating zone II neck wounds. Beitsch, P., Weigelt, J. A., Flynn, E., Easley, S. Department of Surgery, University of Texas Southwestern Medical Center, Dallas. *Archives of Surgery* (1994) June, Vol. 129 (6), pp. 577–81.

OBJECTIVE: To review the management of patients with penetrating zone II neck wounds to discern the value of physical examination and proximity arteriography for predicting arterial injury. **DESIGN:** A retrospective chart review of 178 patients treated for penetrating wounds to the neck. **SETTING:** A level I trauma facility in Dallas, Tex. **PATIENTS:** All patients seen from 1987 to 1991 with platysma penetration in zone II of the neck. **INTERVENTION:** Physical examination, arteriography, and surgical exploration were used to identify patients with arterial injuries in the neck after penetrating trauma. **MAIN OUTCOME MEASURES:** To identify the presence or absence of an arterial injury. **RESULTS:** Negative findings on physical examination ruled out an arterial injury in 99 per cent of all patients. Patients with any sign of arterial injury had a 26 per cent incidence of arterial injury confirmed at operation. Of 71 arteriograms in patients without signs or symptoms of arterial injury, only one had an arterial injury requiring operative intervention. **CONCLUSIONS:** Findings on physical examination are good predictors of arterial injury in patients with penetrating neck wounds and can exclude injury in over 99 per cent of patients. Arteriography is a sensitive test but has a very low yield (1.4 per cent). These findings question whether the current practice of mandatory neck exploration or proximity arteriography is necessary for patients without signs or symptoms of injury who have penetrating wounds of the neck. Author.

Morbidity of otoplasty: a review of 562 consecutive cases. Calder, J. C., Naasan, A. Department of Plastic Surgery, Northern General Hospital, Sheffield. *British Journal of Plastic Surgery* (1994) April, Vol. 47 (3), pp. 170–4.

Otoplasty is a routinely performed procedure in virtually all plastic surgery units. However, there are few comprehensive reports in the literature on the incidence of complications. In a review of 562 consecutive patients we found significant morbidity. Residual deformity, haemorrhage, infection, keloid/hypertrophic scarring and anterior skin necrosis were recorded and incidence determined. Cases requiring revision i.e. those with residual deformity were analyzed further. The fault at the primary procedure was mostly that of design (73.4 per cent), although many other residual problems

were due to poor execution of technique (26.6 per cent). Steps are described to minimize the need for such revision. Author.

The role of MRI scanning in the diagnosis of cervical lymphadenopathy. Wilson, G. R., McLean, N. R., Chippindale, A., Campbell, R. S., Soames, J. V., Reed, M. F. Department of Plastic and Reconstructive Surgery, Newcastle General Hospital, Newcastle upon Tyne, UK. *British Journal of Plastic Surgery* (1994) April, Vol. 47 (3), pp. 175–9.

In a blind, prospective trial, 42 patients undergoing 51 cervical lymph node dissections for head and neck malignancies were investigated by a preoperative MRI scan. Histological examination of the dissection specimens recorded the distribution, size, percentage of neoplastic involvement and any extra-capsular spread of the sampled nodes. The MRI correctly diagnosed all 17 positive nodes (sensitivity 100 per cent). However it could not differentiate between enlarged reactive and malignant nodes, so there was a significant false positive rate (specificity 53 per cent). Routine use of MRI scans will allow an unnecessary neck dissection to be avoided in a patient with a clinically negative neck who also has a negative MRI scan. Author.

Magnetic resonance assessment of age-related development of the sphenoid sinus. Szolar, D., Preidler, K., Ranner, G., Braun, H., Kern, R., Wolf, G., Stammberger, H., Ebner, F. Department of Radiology, Karl Franzens University Hospital, Graz, Austria. *British Journal of Radiology* (1994) May, Vol. 67 (797), pp. 431–5.

Magnetic resonance images of the sphenoid sinus in 401 patients under 15 years old were reviewed to establish normal age-related standards. T1-weighted sagittal and T2-weighted axial scans were evaluated for bone marrow conversion, development of pneumatization, spatial enlargement and septation of the sphenoid sinus. The sphenoid sinus had a uniformly low signal intensity (red bone marrow) on T1-weighted images in all children less than four months old. Signal intensity changes from hypointense to hyperintense (bone marrow conversion) started at the age of four months. Onset of pneumatization was observed in 12 per cent of the patients at age 13–15 months. By age 43–48 months, 85 per cent of the patients showed pneumatization of the anterior part of the sphenoid bone. Pneumatization was complete in all patients older than 10 years. Enlargement of the sinus showed a characteristic profile in each dimension. Median septation was observed irregularly with age, with a maximum of 77 per cent. Septum variants were noticed between 4.5 per cent and 20 per cent. Because paediatric sinus disease is a challenging problem in children, these results may be useful as baseline standards of normal age-related development of the sphenoid sinus during childhood. Author.

Case report: salvage fractionated high dose rate after-loading brachytherapy in the treatment of a recurrent tumour in the middle ear. Hammer, J., Eckmayr, A., Zoidl, J. P., Moser, G., Seewald, D. H., Track, C. Department of Radiotherapy, Barmherzige Schwestern Hospital, Linz, Austria. *British Journal of Radiology* (1994) May, Vol. 67 (797), pp. 504–6.

Re-irradiation of previously irradiated head and neck sites is associated with a high complication rate. In an attempt to reduce this complication risk, multiple fractions of high dose rate (HDR) intracavitary irradiation were used in a young patient who had developed recurrent transitional cell carcinoma in the tympanic cavity one year after radical radiotherapy. After gross surgical removal of the tumour, an afterloading probe was placed into the middle ear by a surgical approach. In 11 treatments of 3 Gy each over four days, a total dose of 33 Gy was delivered to a spherical volume, 1.7 cm in diameter. The patient was 24 months free of disease at the start of 1993. Audiometry shows no severe deterioration of hearing. We concluded that fractionated HDR brachytherapy can be used to achieve local control in small volume recurrences at previously irradiated sites, without the inevitability of complications. Author.

Epstein-Barr virus in patients with polymorphic reticulosis (lethal midline granuloma) from China and Japan. Mishima, K., Horiuchi, K., Kojya, S., Takahashi, H., Ohsawa, M., Aozasa, K. Department of Pathology, Nara Medical College, Kashihara, Japan. *Cancer* (1994) June 15, Vol. 73 (12), pp. 3041–6.

BACKGROUND. Polymorphic reticulosis is one of several diseases constituting lethal midline granuloma (LMG). Previous immunohistochemical studies suggested a T-cell nature of proliferating cells; the term nasal T-cell lymphoma (NTL-LMG) has since been used widely. The authors' previous study in Asian countries showed the

clustering of Mongolian patients with NTL-LMG, but the frequency varied with geographic area; it was much higher in Korea and south-west Japan (Okinawa) than in Shanghai and Honshu, Japan. Recently an etiologic role of Epstein-Barr virus (EBV) for the development of NTL-LMG has been postulated. **METHODS.** In this study, the presence of EBV and human T-cell lymphocytic leukemia virus type 1 (HTLV-1) genomes were examined in NTL-LMG patients from Southwest Japan (Okinawa, 10 patients), another Japanese district (Honshu, 21 patients), and Shanghai, China (five patients). All of the tissues from different geographic sites were analyzed at one central location. **RESULTS.** Immunohistochemistry showed that proliferating large cells were positive for CD43 and/or CD45R0, identical with reported NTL-LMG cases. Polymerase chain reaction (PCR) revealed the presence of EBV genome in the NTL-LMG lesions, but the frequency varied according to the geographic area: 67 per cent in Okinawa, 33 per cent in Honshu, and 100 per cent in Shanghai. In situ hybridization provided positive signals in the nuclei of proliferating cells. Expression of latent membrane protein in the proliferating cells of cases positive for EBV by PCR and in situ hybridization was confirmed. **CONCLUSIONS.** The results suggest that the EBV may play a role in the development of NTL-LMG. However, the variation of frequency of EBV genome in different geographic locations suggests that EBV infection may not be an indispensable condition for the disease. Author.

Use of positron emission tomography with fluorodeoxyglucose in patients with extracranial head and neck cancers. Rege, S., Maass, A., Chaiken, L., Hoh, C. K., Choi, Y., Lufkin, R., Anzai, Y., Juillard, G., Maddahi, J., Phelps, M. E. Department of Molecular and Medical Pharmacology, UCLA School of Medicine. *Cancer* (1994) June 15, Vol. 73 (12), pp. 3047–58.

BACKGROUND. The purpose of this study was to evaluate the utility of positron emission tomography- (PET) 2-(18F)-fluoro-2-deoxy-D-glucose (FDG) imaging in extracranial head and neck cancers. **METHODS.** Sixty patients with biopsy-proven cancers were studied using PET-FDG. Thirty-four patients were studied before therapy (staging), of which 15 patients received primary radiotherapy and serial PET-FDG imaging (monitoring). Seven patients with advanced disease had laser excision (monitoring), and 19 patients were evaluated for recurrent disease (recurrence). **RESULTS.** Four patients had unknown primary lesions. PET-FDG imaging located the primary tumour in two of four patients, and magnetic resonance imaging (MRI) in none of four. In the remaining patients (staging), PET-FDG imaging detected the primary tumour in 29 of 30 patients, and MRI in 23 of 30. In the staging group, PET-FDG imaging identified the presence or absence of lymph node involvement in 32 of 34 patients, and MRI in 31 of 34. PET-FDG imaging was helpful in evaluating tumour response to radiation therapy or laser excision. Ten patients evaluated for recurrent disease had biopsy-confirmed recurrences, and seven had no recurrence. PET-FDG imaging results were positive for primary tumour recurrence in 9 of 10 patients, and MRI results were positive in 6 of 10. MRI results were negative for lymph node disease in one of these patients with recurrent primary tumour where PET-FDG imaging and biopsy demonstrated nodal involvement. PET-FDG results were negative for recurrent disease in seven of seven patients, and MRI results were negative for recurrent disease in four of seven. **CONCLUSION.** In this series, the authors found that PET-FDG is a useful diagnostic modality for evaluating the patient with an unknown primary, monitoring response to therapy, and in detecting recurrent tumours. Author.

Tumour necrosis factor-alpha and leukotriene E4 production in wheezy infants (see comments). Balfour-Lynn, I. M., Valman, H. B., Wellings, R., Webster, A. D., Taylor, G. W., Silverman, M. Department of Paediatrics, Northwick Park Hospital and Clinical Research Centre, Harrow, UK. *Clinical and Experimental Allergy* (1994) February, 24 (2): 97–9.

It is not clear why certain infants wheeze during viral upper respiratory tract infections (URTIs) but it is possible that they have a tendency to mount an exaggerated inflammatory response leading to production of mediators that induce airway narrowing. We studied nasal tumour necrosis factor-alpha (TNF alpha) and urinary leukotriene E4 (LTE4) production during infection and after recovery in 31 wheezy infants (median age 6.2 months). Urinary LTE4 production was not altered during wheezy episodes or URTIs. However, the concentration of TNF alpha in nasal lining fluid (NLF) was significantly increased during acute episodes of wheeze compared to recovery (median (interquartile range) of 293 (42–1753) vs 0

(0–203) pg/ml NLF). TNF alpha was detectable more often and in higher concentration when wheezing was due to respiratory syncytial virus. TNF alpha was also present in 7/30 asymptomatic wheezy infants who had recovered from infection (> 100 pg/ml NLF) and in 4/7 non-wheezy siblings during URTIs (> 200 pg/ml NLF). This suggests that upregulation of TNF alpha production is not the only factor that makes some infants wheeze. Author.

Trigeminal sensory neuropathy with abnormal taste following acute sinusitis. Okuda, B., Tachibana, H., Sugita, M. Fifth Department of Internal Medicine, Hyogo College of Medicine, Nishinomiya, Japan. *Clinical Neurology and Neurosurgery* (1994) February, Vol. 96 (1), pp. 83–5.

We report a case of isolated trigeminal sensory neuropathy associated with impairment of taste sensation following acute sinusitis. Sensory disturbance was distributed mainly in the ophthalmic division, and partly in the maxillary and mandibular divisions. No other cranial nerves were involved. An otological procedure resulted in complete recovery. The unique combination of trigeminal neuropathy and abnormal taste seemed to be caused by the infectious process involving the gasserian ganglion of the trigeminal nerve. Author.

Radiological appearance of clinical inflammatory sinus disease with bone destruction. The significance of contrast enhancement. Rushton, V. E., Theaker, E. D., Whitehouse, R. W., Taylor, P. M. Department of Oral and Maxillofacial Medicine and Surgery, Turner Dental Hospital, University of Manchester, UK. *Dentomaxillofacial Radiology* (1994) February, Vol. 23 (1), pp. 33–6.

It is generally accepted that conventional imaging techniques have limitations in their ability to differentiate benign and malignant disease processes resulting in bone destruction. Although computed tomography (CT) has proved helpful in the diagnosis of such lesions in the paranasal sinuses, the underlying radiological criteria are unclear and the value of contrast enhancement appears limited. Conventional radiographs and CT scans, with dynamic contrast infusion, from five patients in whom a provisional diagnosis of antral carcinoma had been made were reviewed in the light of a subsequent histopathological diagnosis of benign inflammatory disease. In four of these patients, a band of enhancement was demonstrated to parallel the antral walls which, in three cases, remained intact despite underlying bony defects. Their finding is significant in that it demonstrates mucosal integrity, thus making the radiological diagnosis of antral carcinoma less attractive and allowing assessment of the extent of inflammatory soft tissue changes. Thus the use of contrast-enhanced CT is recommended in the assessment of patients in whom sinus disease with bone destruction has been identified on conventional radiographic examination. Author.

Components and determinants of hearing aid benefit. Gatehouse, S. MRC Institute of Hearing Research, Glasgow, Scotland. *Ear and Hearing* (1994) February, Vol. 15 (1), pp. 30–49.

This study investigates the measured and perceived disabilities and handicaps and associated auditory performance in 309 first-time hearing aid candidates. The results suggest that both disability and hearing aid benefit may be divided into separate components having particular and separate relationships to predictor variables in terms of both auditory and nonauditory characteristics. This division leads to a better understanding of the problems associated with a hearing impairment and their alleviation (or lack of) by provision of a hearing aid. In addition, the results support the development of more appropriate speech identification measures and suggest a potentially important role for measures of the temporal properties of the impaired auditory system. Author.

Low-frequency sensorineural loss: clinical evaluation and implications for hearing aid fitting. Halpin, C., Thornton, A., Hasso, M. Massachusetts Eye and Ear Infirmary, Boston. *Ear and Hearing* (1994) February, Vol. 15 (1), pp. 71–81.

Spread of excitation in the cochlea places fundamental limits on the interpretation of audiometric pure-tone hearing loss as a simple map of dysfunction along the cochlear partition, and histologic evidence from human temporal bones will be presented to demonstrate the insensitivity of the audiogram to variations in pathology in the case of low-frequency hearing loss. This article will describe a clinical procedure using simultaneous pure-tone masking to improve upon the localization of cochlear disease, particularly for low-frequency hearing losses, and a model for using the Articulation Index (AI) to develop prognoses for hearing aid performance in these cases, which

can then be tested. Fourteen patients with low-frequency hearing loss were divided into two groups based upon threshold shifts caused by a pure-tone masker: those that showed normal low-frequency threshold shifts and those that showed marked shifts at frequencies below the masker, indicating greater loss of function than shown by the unmasked audiogram. Hypothetical audiograms were then generated to model a complete loss of apical function for all patients. Measured speech recognition scores were then compared to AI predictions for the actual and hypothetical audiograms. Best agreement for the patients showing normal masking shifts was between the measured scores and the AI for the actual audiogram, whereas the best agreement for the patients showing marked shifts was with the AI for the hypothetical audiogram. The implications for hearing aid recommendation and fitting in these cases are discussed. Author.

Audiologic results for the bone-anchored hearing aid HC220. Mylanus, E. A., Snik, A. F., Jorritsma, F. F., Cremers, C. W. Department of Otorhinolaryngology, University Hospital Nijmegen. *Ear and Hearing* (1994) February, Vol. 15 (1), pp. 87–92.

Twenty-six patients with severe mixed hearing loss (PTA range 57 to 108 dB HL) were fitted with the 'super-bass' bone-anchored hearing aid (BAHA) HC220 and divided into two groups. Group I contained 19 patients who previously used a conventional bone conduction hearing aid that had resulted in serious complaints. Group II contained seven patients who had previously used an air conduction hearing aid that could no longer be used because of recurrent otorrhoea. Sound field speech audiometry for the patients in Group I revealed that for seven patients the maximum phoneme score did not change, but that it improved for 12 patients with the HC220, compared with their conventional bone conduction hearing aid. In Group II, the maximum phoneme score improved for three patients, worsened for three patients and did not change for one patient with the HC220, compared with their air conduction hearing aid. Speech recognition in noise was difficult for most of the patients regardless of group. However, results were obtained from 10 patients, and seven improved significantly with the HC220 compared with their previous aid. Overall, speech recognition with the HC220 was comparable with or better than a conventional bone conduction hearing aid; however, compared with an air conduction hearing aid the results were ambiguous. Author.

Brain-stem auditory evoked responses to hypercarbia in preterm infants. Friss, H. E., Wavrek, D., Martin, W. H., Wolfson, M. R. Department of Pediatrics, Temple University School of Medicine, Philadelphia, PA. *Electroencephalography and Clinical Neurophysiology* (1994) May, Vol. 90 (5), pp. 331–6.

To determine the effect of acute hypercarbia on brain-stem function in preterm neonates, we compared brain-stem auditory evoked responses (BAERs) during eight per cent CO₂ breathing to those elicited during room air breathing in 12 healthy preterm infants during the first week of life. End-tidal CO₂ (ETpCO₂), respiratory rate and depth were monitored throughout the protocol. Absolute wave latencies and interpeak intervals of the BAERs were analyzed from duplicate trials. During eight per cent CO₂ breathing, ETpCO₂, respiratory rate and depth of respiration increased significantly ($P < 0.05$). The absolute latency of wave V was prolonged ($P < 0.025$) in the hypercarbic state as compared to baseline. Interpeak interval III–V was also prolonged ($P < 0.025$). Values of absolute peak latencies I and III were unaffected by the hypercarbic state. These data demonstrate that elevations in p CO₂ which elicit ventilatory responses also effect that BAER. The specific effects on ventilatory pattern, peak V latency and interpeak interval III–V indicate a brain-stem responsiveness and alterations in the more central components of the auditory pathway. These findings raise important considerations regarding the influence of hypercarbia on brain-stem function in preterm infants and the clinical management of such infants with abnormalities of gas exchange. Author.

Click-evoked responses from the cochlear nucleus: a study in human. Moller, A. R., Jannetta, P. J., Jho, H. D. Department of Neurological Surgery, Presbyterian-University Hospital, University of Pittsburgh School of Medicine, PA 15213. *Electroencephalography and Clinical Neurophysiology* (1994) May, Vol. 92 (3), pp. 215–24.

Recordings from the vicinity of the cochlear nucleus in nine patients undergoing microvascular decompression operations to relieve hemifacial spasm, trigeminal neuralgia, tinnitus, and disabling positional vertigo were conducted by placing a monopolar electrode in the lateral recess of the fourth ventricle (through the foramen of

Luschka), the floor of which is the dorsolateral surface of the dorsal cochlear nucleus. The click-evoked potentials recorded by such an electrode display a slow negative wave with a peak latency of about 6–7 msec on which several sharp peaks are superimposed. None of the peaks in the recordings from the vicinity of the cochlear nucleus coincided with any vertex-positive peaks of the brain-stem auditory evoked potentials. In recordings from the lateral aspect of the floor of the fourth ventricle near the cochlear nucleus one patient showed two positive peaks, the earliest of which had a latency close to that of peak II and the second of which had a latency close to the negative peak between peaks III and IV of the brain-stem auditory evoked potentials. There is a distinct negative peak in the responses recorded from the midline of the floor of the fourth ventricle, the latency of which is only slightly shorter than that of peak V of the brain-stem auditory evoked potentials, supporting earlier findings that the sharp tip of peak V of the brain-stem auditory evoked potentials is generated by the termination of the lateral lemniscus in the inferior colliculus. Author.

Evoked potentials recorded from the auditory cortex in man: evaluation and topography of the middle latency components. Liegeois-Chauvel, C., Musolino, A., Badier, J. M., Marquis, P., Chauvel, P. INSERM, C.J.F. 90/12, Clinique Neurologique, Hôpital Pontchaillou, Rennes, France. *Electroencephalography and Clinical Neurophysiology* (1994) May, Vol. 92 (3), pp. 204–14.

The goal of this study is to determine and localize the generators of different components of middle latency auditory evoked potentials (MLAEPs) through intracerebral recording in auditory cortex in man (Heschl's gyrus and planum temporale). The present results show that the generators of components at 30, 50, 60 and 75 msec latency are distributed medio-laterally along Heschl's gyrus. The 30 msec component is generated in the dorso-postero-medial part of Heschl's gyrus (primary area) and the 50 msec component is generated laterally in the primary area. The generators of the later components (60–75 msec) are localized in the lateral part of Heschl's gyrus that forms the secondary areas. The localization of N100 generators is discussed. Author.

Mapping of the choroideremia-like (CHML) gene at 1q42-qter and mutation analysis in patients with Usher syndrome type II. von Bokhoven, H., von Genderen, C., Molloy, C. M., van de Pol, D. J., Cremers, C. W., von Aarem, A., Schwartz, M., Rosenberg, T., Geurts van Kessel, A. H., Ropers, H. H., *et al.* Department of Human Genetics, University Hospital Nijmegen, The Netherlands. *Genomics* (1994) January 15, Vol. 19 (2), pp. 385–7.

The human choroideremia-like (CHML) gene and a locus for Usher syndrome type 2 (USH2) were recently mapped to the 1q31-qter region employing physical mapping and genetic linkage studies, respectively. Using a human-rodent hybrid cell line, we could refine the assignment of CHML in this study to 1q42-qter. USH2 was shown to map to the same chromosomal segment as evidenced by the fact that D1S58, a polymorphic marker previously shown to be located proximal to the USH2 locus, was also assigned in the 1q42-qter segment. To investigate a possible role of the CHML gene in the pathogenesis of USH2, we investigated 10 Dutch and nine Danish USH2 patients for point mutations in the open reading frame of the CHML gene. Employing polymerase chain reaction-single-strand conformation polymorphism analysis and direct sequencing, we found no disease-specific mutations. These results suggest that CHML is not involved in the pathogenesis of USH 2. Author.

The middle ear muscle of frogs does not modulate tympanic responses to sound. Hetherington, T. E. Department of Zoology, Ohio State University, Columbus 43210-1293. *Journal of the Acoustical Society of America* (1994) April, Vol. 95 (4), pp. 2122–5.

The effect of the opercularis (= middle ear) muscle on the acoustic responsiveness of the tympanic middle ear of anuran amphibians was studied using laser vibrometric measurements of tympanic responses to sound. Removal of the muscle or direct stimulation of denervated muscles had no measurable effects on tympanic responses to sound in either American bullfrogs (*Rana catesbeiana*) or green treefrogs (*Hyla cinerea*) at any frequency or at any sound-pressure level studied. These results suggest that, contrary to proposed hypotheses, the opercularis muscle of the anuran middle ear is not capable of modulating the responsiveness of the tympanic middle ear. Instead, the opercularis system most likely functions as an independent system involved in acoustic reception. Author.

Expression of transforming growth factors-alpha and beta 1

messenger RNA and product by eosinophils in nasal polyps. Elovic, A., Wong, D. T., Weller, P. F., Matossian, K., Galli, S. J. Department of Oral Medicine and Diagnostic Sciences, Harvard School of Dental Medicine, Boston, MA 02115. *Journal of Allergy and Clinical Immunology* (1994) May, Vol. 93 (5), pp. 864–9.

Nasal polyps are thought to develop as a manifestation of a chronic inflammatory process involving the upper airways. The eosinophil characteristically represents a prominent component of the inflammatory cell infiltrate of these lesions. However, the major clinical problem associated with nasal polyps, nasal obstruction, reflects the proliferation of the stromal and epithelial elements, which constitute the bulk of these lesions. We recently reported that blood eosinophils of patients with hypereosinophilia can produce the cytokines transforming growth factors-alpha (TGF-alpha) and beta 1 (TGF-beta 1). These cytokines have many biologic activities, which include the regulation of epithelial proliferation, the promotion of extracellular matrix formation, and the induction of angiogenesis. We therefore used *in situ* hybridization to determine whether the eosinophils that infiltrate nasal polyps express TGF-alpha and/or TGF-beta 1 messenger RNA and used immunohistochemistry to determine whether these eosinophils also express TGF-alpha and TGF-beta 1 proteins. We found that eosinophils represented a major source of both transforming growth factors in each case of nasal polyposis examined and that in most cases the majority of all eosinophils expressed both TGF-alpha and TGF-beta 1. These results suggest that production of TGF-alpha and TGF-beta 1 by the infiltrating eosinophils may contribute to some of the pathologic changes observed in nasal polyposis, such as thickening of the epithelial basement membrane, stromal fibrosis, angiogenesis, and epithelial and glandular hyperplasia. Author.

Vocal cords dysfunction resulting from heterotopic ossification in a patient with burns. Lippin, Y., Shvorn, A., Faibel, M., Tsur, H. Department of Plastic Surgery, Chaim Sheba Medical Center, Tel Hashomer, Israel. *Journal of Burn Care and Rehabilitation* (1994) March–April, Vol. 15 (2), pp. 169–73.

Limitation of movement of vocal cords developed in a 38-year-old man after he received a 45 per cent second- and third-degree burn with ossification about the cricoarytenoid joints, which indicated that the lesion had been caused by heterotopic ossification. To the best of our knowledge, this is the first report in medical literature of heterotopic ossification as a mechanical cause of vocal cords dysfunction in the patient with critical burns. Diphosphonate (Didronel) treatment has improved the function of the vocal cords after 11 months of therapy. Author.

The acquired immune deficiency syndrome: an overview for the emergency physician, part 2. Guss, D. A. Department of Emergency Medicine, University of California, San Diego Medical Center. *Journal of Emergency Medicine* (1994) Vol. 12, No. 4, pp. 491–7.

Human immunodeficiency virus (HIV) affects all organ systems. Infection of the heart can manifest with evidence of myocarditis, pericarditis, or cardiomyopathy. The most common gastrointestinal symptom is diarrhea, which can result from infection with a variety of bacterial, fungal, or protozoal organisms. In about 15 per cent of cases, no pathogen is recognized and the diarrhea syndrome is termed AIDS enteropathy. Any portion of the alimentary tract can be affected as well as the liver, gall-bladder, and pancreas. Cryptosporidium, a previously infrequent cause of human illness, has emerged as an important pathogen in the HIV-infected patient and is responsible for chronic diarrhea, cholecystitis, and biliary tract obstruction. Evidence of neurologic involvement is present in more than 80 per cent of patients at the time of autopsy. Cryptococcal meningitis, toxoplasma encephalitis, and neurosyphilis are the most often encountered central nervous system infections. While all three are responsive to therapy, treatment must be prolonged or persist for the duration of the patient's life to avoid recurrence. Peripheral nervous system manifestations include myelopathy, myopathy, and a variety of peripheral neuropathies. Retinal infection with cytomegalovirus (CMV) and toxoplasma can lead to irreversible loss of vision. Cotton wool spots are a common benign physical finding that must be differentiated from the early signs of CMV or toxoplasma infection.

Management of the HIV-infected patient, while most often conducted by specialists in Internal Medicine or Infectious Diseases, is often an issue for the emergency physician. Many of the commonly afforded therapies are reviewed.

Virus and bacteria enhance histamine production in middle ear

fluids of children with acute otitis media. Chonmaitree, T., Patel, J. A., Lett-Brown, M. A., Uchida, T., Garofalo, R., Owen, M. J., Howie, V. M. Department of Pediatrics, University of Texas Medical Branch at Galveston 77555-0371. *Journal of Infectious Diseases* (1994) June, Vol. 169 (6), pp. 1265–70.

Histamine levels were measured in 677 middle ear fluid (MEF) samples from 248 children (aged two months to seven years) with acute otitis media (AOM); of these, 116 (47 per cent) had documented viral infection. Histamine content was higher in bacteria-positive than in bacteria-negative MEF samples ($P = 0.007$) and higher in samples from patients with viral infection than in those from patients with no viral infection ($P = 0.002$). Bacteria and viruses together had an additive effect on histamine content in MEF. Histamine concentration in the initial MEF sample tended to be higher in patients with persistent otitis than in those with good response to treatment ($P = 0.14$). Results suggest that viruses, bacteria, or both induce histamine production, which leads to increased inflammation in the middle ear. Antihistaminic drugs may be beneficial. Large, prospective, controlled trials of the effects of antihistamine as an adjunct therapy in bacterial and viral AOM are required before recommendations can be made. Author.

Epidemiology of *Moraxella catarrhalis* in children during the first two years of life: relationship to otitis media. Faden, H., Harabuchi, Y., Hong, J. J. Department of Pediatrics, State University of New York, School of Medicine and Biomedical Sciences, Children's Hospital, Buffalo. *Journal of Infectious Diseases* (1994) June, Vol. 169 (6), pp. 1312–7.

Nasopharyngeal colonization with *Moraxella catarrhalis* was evaluated in a large cohort of infants followed prospectively from birth to two years of age; 120 children were examined at 13 routine visits. Of these, 66 per cent became colonized with *M. catarrhalis* by one year and 77.5 per cent by two years. Nasopharyngeal colonization with *M. catarrhalis* increased from 27 per cent during healthy visits to 62.7 per cent during visits due to otitis media ($P < 0.001$). Otitis-prone children were colonized at 44.4 per cent of all visits compared with 16.7 per cent for children who did not have otitis media ($P < 0.001$). DNA from 112 strains of *M. catarrhalis* from 34 children were evaluated; 106 were successfully digested with restriction enzymes and demonstrated a great degree of heterogeneity. Children tended to acquire and eliminate a number of different strains. Intra-familial spread of the same strain of *M. catarrhalis* was frequent. These data suggest that nasopharyngeal colonization with *M. catarrhalis* is common throughout infancy. A high rate of colonization is associated with an increased risk of otitis media. Author.

A comparison of azelastine nasal spray and cetirizine tablets in the treatment of allergic rhinitis. Passali, D., Piragine, F. ENT Department, University of L'Aquila, Italy. *Journal of International Medical Research* (1994) January–February, Vol. 22 (1), pp. 17–23. A total of 40 patients with perennial allergic rhinitis were treated with either azelastine nasal spray 0.14 mg/nostril twice daily (0.56 mg/day) or cetirizine tablets 10 mg once daily. Treatment was for a period of eight weeks. The rhinitis symptoms were evaluated according to a four-point scale (0 = absent, 3 = severe). The Total Rhinitis Symptom Score (TRSS) was derived from the sum of the individual symptom scores. Symptoms were assessed at baseline prior to treatment and at weeks 2, 4 and 8. Compared baseline, TRSS for both the azelastine and cetirizine groups were less at each assessment during treatment, a slight non-significant advantage was seen in the azelastine group. At the end of the study, physicians rated global efficacy as being 'good' or 'excellent' in 73.7 per cent of azelastine patients and 55.5 per cent of cetirizine patients. Both treatments were well tolerated and no serious adverse events were reported, however, two cetirizine patients withdrew from the study because of somnolence. In conclusion, azelastine has been shown to be at least as effective as cetirizine in the relief of the symptoms of perennial allergic rhinitis. Author.

Stereotactic radiosurgery for acoustic nerve tumours in patients with useful preoperative hearing: results at two-year follow-up examination. Ogunrinde, O. K., Lunsford, L. D., Flickinger, J. C., Kondziolka, D. Department of Neurological Surgery, University of Pittsburgh School of Medicine, Pennsylvania. *Journal of Neurosurgery* (1994) June, Vol. 80 (6), pp. 1011–7.

Twenty patients with acoustic nerve tumours (mean diameter $<$ or = 30 mm) and useful preoperative hearing were examined two years after stereotactic radiosurgery to determine the effectiveness of the surgery in the control of tumour growth and the preservation of

cranial nerve function. Results showed tumour volume stabilization (12 cases) or reduction (seven cases) was achieved in a total of 19 patients (95 per cent). Useful hearing (defined as Gardner and Robertson Class I or II) preservation was obtained in 100 per cent of cases immediately postoperatively, 50 per cent at six months, and 45 per cent at both one and two years. Two years after stereotactic radiosurgery, facial nerve function was preserved in 90 per cent of patients and 75 per cent continued to have normal trigeminal nerve function. All patients returned to and maintained their preoperative functional status within three to five days after radiosurgery. These findings indicate that stereotactic radiosurgery with multiple isocenters and narrow radiation beams is a safe and effective management strategy for progressive acoustic nerve tumours. Auditory, facial, and trigeminal nerve function can be preserved in most patients. Prevention of further growth and preservation of cranial nerve function appear to be satisfactory goals in the current management of patients with acoustic neuromas. Author.

Frequency and significance of isolation of *Ureaplasma urealyticum* and *Mycoplasma hominis* from cerebrospinal fluid and tracheal aspirate specimens from low birth weight infants. Heggie, A. D., Jacobs, M. R., Butler, V. T., Baley, J. E., Boxerbaum, B. Department of Pediatrics, Case Western Reserve University School of Medicine, Cleveland, Ohio. *Journal of Pediatrics* (1994) June, Vol. 124 (6), pp. 956–61.

To investigate the pathogenicity of *Ureaplasma urealyticum* and *Mycoplasma hominis* in preterm infants, we conducted a study to determine (1) frequency of isolation from cerebrospinal fluid and tracheal aspirate specimens and (2) clinical outcomes and effect of erythromycin treatment in ureaplasma-colonized infants. From the cerebrospinal fluid of 920 infants, *U. urealyticum* was isolated from two (0.2 per cent) and *M. hominis* from none. From tracheal aspirate specimens from 224 infants, *U. urealyticum* was recovered from 37 (17 per cent) and *M. hominis* from four (two per cent). Demographic characteristics and clinical outcomes were compared in very low birth weight infants ($<$ 1500 gm) who were culture-positive or -negative for *U. urealyticum*. Although infants with positive results were less mature than their cohorts with negative results, there were no substantive differences in clinical outcomes between the two groups. Initiation of erythromycin treatment of infants with positive ureaplasma culture results at a mean age of 16.4 days did not appear to alter the clinical outcome. We conclude that in preterm infants (1) infection of the cerebrospinal fluid by *U. urealyticum* is infrequent, (2) ureaplasma organisms are frequently present in tracheal aspirate specimens but do not appear to be related to the presence or the subsequent development of respiratory disease, and (3) initiation of erythromycin treatment at one to three weeks of age does not alter the clinical course. Author.

Acyclovir-resistant neonatal herpes simplex virus infection of the larynx. Nyquist, A. C., Rotbart, H. A., Cotton, M., Robinson, C., Weinberg, A., Hayward, A. R., Berens, R. L., Levin, M. J. Department of Pediatrics, University of Colorado School of Medicine, Denver. *Journal of Pediatrics* (1994) June, Vol. 124 (6), pp. 967–71.

A 10-day-old infant with stridor was found to have herpes simplex virus type two infection of the larynx. The infant's poor clinical response to both acyclovir and foscarnet prompted extensive clinical and virologic evaluations, which revealed acyclovir-resistant herpes simplex virus. Author.

Sudden hearing loss associated with interferon. Kanda, Y., Shigeno, K., Kinoshita, N., Nakao, K., Yano, M., Matsuo, H. Department of Otolaryngology, Nagasaki University School of Medicine, Japan. *Lancet* (1994) May 7, Vol. 343 (8906), pp. 1134–5.

With the increasing long-term use of interferon, several new adverse effects have been recognized. We have prospectively assessed auditory function in 49 patients receiving interferon, after we saw a case of sudden sensorineural hearing loss during interferon therapy. Auditory disability (tinnitus, hearing loss, or both) occurred in 22 patients (45 per cent) during treatment with audiometry-documented sensorineural hearing loss in 18 (37 per cent). The auditory disability often developed in the late stage of treatment and resolved in all patients within 7–14 days after discontinuation of interferon. Author.

Patients' attitude about outcomes and the role of gamma knife radiosurgery in the treatment of vestibular schwannomas. Hud-

gins, W. R. Presbyterian Hospital of Dallas, Texas. *Neurosurgery* (1994) March, Vol. 34 (3), pp. 459–63; discussion 463–5.

In one strategy for the treatment of unilateral vestibular schwannomas measuring up to 3 cm in diameter, decision analysis shows that gamma knife radiosurgery has probabilistic dominance over microsurgical resection. That is, radiosurgery produces better results for any value assigned to treatment outcomes (ranked from best to worst) of the following: no complications, hearing loss only, residual/recurrent tumour, facial paralysis, major disability, or death. This little-known principle of decision analysis will be explained. It implies that when patients prefer the preservation of facial nerve function, even if that requires leaving a tumour remnant, then gamma knife radiosurgery is a better treatment strategy than microsurgical resection. Author.

Serious unexpected sinus infection discovered by CT scanning for presumed neurological disease. Swift, A. C., Gill, G. V. Aintree Hospitals, Walton, Liverpool, UK. *Postgraduate Medical Journal* (1994) March, Vol. 70 (821), pp. 203–6.

Serious infection in the paranasal sinuses may present with symptoms suggestive of neurological disease and thus lead to delay in the diagnosis and subsequent treatment. We present three such cases in whom the initial diagnoses had been acute optic neuritis, a posterior communicating aneurysm and an intracranial space occupying lesion. The fourth patient had meningitis but the paranasal sinuses had not initially been considered as a possible source of infection. The current methods of diagnosing sinusitis are discussed. Author.

HIV education for the deaf, a vulnerable minority. Peinkofer, J. R. AIDS Center, University of Rochester's Strong Memorial Hospital 14642. *Public Health Reports* (1994) May–June, Vol. 109 (3), pp. 390–6.

Large numbers of deaf and hard-of-hearing people are in danger of becoming infected with the human immunodeficiency virus (HIV). The deaf are particularly vulnerable because of language barriers, their unique culture, and the paucity of community services, educational programs, and general information directed to this population. The particular barriers that the deaf must face in learning about HIV protection range from inadequate schooling about human sexuality to the scarcity of locally available education programs outside the cities with high rates of HIV infection. The programs for the deaf in Houston, Los Angeles, and New York City are described as well as the array of national efforts directed to this special population. Author.

Craniovertebral junction: normal anatomy, craniometry, and congenital anomalies. Smoker, W. R. Department of Radiology, Medical College of Virginia, Richmond 23298. *Radiographics* (1994) March, Vol. 14 (2), pp. 255–77.

The craniovertebral junction (CVJ) comprises the occiput, atlas, and axis and is visible in most magnetic resonance (MR) imaging studies of the brain. Craniometric measurements used in radiologic assessment of CVJ anomalies include the Chamberlain line, Wackenheim clivus baseline, Welcher basal angle, and atlantooccipital joint axis angle. Most anomalies of the occiput are associated with decreased skull base height and basilar invagination, the latter being a primary developmental anomaly in which the vertebral column is abnormally high and prolapsed into the skull base. Occiput anomalies include condylus tertius, condylar hypoplasia, basiocciput hypoplasia, and atlanto-occipital assimilation. Most atlas anomalies produce no abnormal CVJ relationships and are not associated with basilar invagination. These anomalies include aplasias, hypoplasias, and clefts of the atlas arches and 'split atlas' (ie, posterior arch

rachischisis associated with anterior arch rachischisis). Except for fusion anomalies, abnormalities of the axis are primarily confined to the odontoid process and are not associated with basilar invagination. These anomalies include persistent ossiculum terminale, odontoid aplasia, and os odontoideum. With the widespread availability of MR imaging, which is well suited for evaluating the CVJ because of its direct sagittal imaging capabilities, renewed understanding of CVJ anatomy and anomalies is important for all radiologists. Author.

Enlarged cervical lymph nodes at helical CT. Steinkamp, H. J., Hosten, N., Richter, C., Schedel, H., Felix, R. Department of Radiology, Freie Universität Berlin, Klinikum Rudolf Virchow/Standort Wedding, Germany. *Radiology* (1994) June, Vol. 191 (3), pp. 795–8.

PURPOSE: To evaluate criteria for differentiating malignant versus reactive lymph nodes in the head and neck on the basis of findings at helical computed tomography (CT). **MATERIALS AND METHODS:** Helical CT scans were evaluated of 70 consecutive patients (46 men and 24 women, aged 20–78 years (mean, 51 years)) with known head and neck tumours and cervical lymph node enlargement. The ratio of the maximal longitudinal to the maximal axial diameter (L/T) was calculated for nodes larger than 8 mm in diameter based on measurements obtained from coronal, paraxial, and sagittal reconstructions. **RESULTS:** At histologic examination, 96 of 164 nodes were malignant. Of these, 94 of 96 nodes had an L/T of less than two (sensitivity, 97 per cent; specificity, 97 per cent; accuracy, 97 per cent for malignancy). Minimal diameter was more than 8 mm in 83 of 96 nodes (sensitivity, 87 per cent; specificity, 89 per cent; accuracy, 88 per cent for malignancy). Low-attenuation centers and rim enhancement were seen in 75 of 96 nodes (sensitivity, 78 per cent; specificity, 100 per cent; accuracy, 86 per cent for malignancy). **CONCLUSION:** The L/T at helical CT provide an accurate assessment of reactive versus malignant nodes in the head and neck. Author.

Frequency characteristics of summing potential in Meniere's disease. Mori, N., Asai, H., Shugyo, A., Sakagami, M. Department of Otolaryngology, Kagawa Medical School, Japan. *Scandinavian Audiology* (1994), Vol. 23 (1), pp. 3–6.

SP iso-response functions in nine patients with Meniere's disease were examined for differences in the properties between +SP and -SP. The iso-response function for +SP was centered at high frequencies (around 9 kHz in most cases) with fairly steep slopes on both sides towards both higher and lower frequencies, whereas -SP showed a low-pass function. The tendency was found for patients with normal hearing at high frequencies to have a larger Q10dB than patients with a hearing loss. The difference in properties between +SP and -SP suggests the possibility that +SP may provide different information on the pathophysiology of Meniere's disease from that obtained from -SP. Author.

Acoustic impedance in the human ear canal. Kringlebotn, M. Division of Physics, Norwegian Institute of Technology, University of Trondheim. *Scandinavian Audiology* (1994), Vol. 23 (1), pp. 65–71.

For 13 normal-hearing test persons, the acoustic impedance about 6 mm inside the ear canal entrance has been measured in the frequency range 90–20,000 Hz by using standing wave measuring tubes connected to the ear canal via small ear adaptor tubes. The results show good reproducibility but large individual differences. Author.