

## Abstract selection

**Sudden hearing loss: frequency of abnormal findings on contrast-enhanced MR studies.** Fitzgerald, D. C., Mark, A. S. Department of Otolaryngology and Radiology, Washington Hospital Center, Washington, DC 20010, USA. *American Journal of Neuroradiology* (1998) September, Vol. 19 (8), pp. 1433–6.

**BACKGROUND AND PURPOSE:** Our purpose was to determine the frequency of abnormal findings on contrast-enhanced high-resolution MR imaging studies in patients with sudden hearing loss. **METHODS:** Seventy-eight consecutive patients with sudden hearing loss underwent contrast-enhanced MR imaging of the temporal bone, cerebellopontine angle, and brain. Additional tests included audiologic examination, electrocochleography, fistula tests, and serologic tests for viral agents and autoimmune disorders. **RESULTS:** Probable causes of the sudden hearing loss in these patients included viral or immune-mediated disease, Meniere disease, vascular disorder, syphilis, neoplasm, multiple sclerosis, and perilymphatic fistula. Twenty-four (31 per cent) of the 78 patients were found to have abnormal imaging results early in the course of their work up and treatment. **CONCLUSION:** The prevalence of abnormal findings on contrast-enhanced MR studies is higher than previously reported in patients with sudden hearing loss. Author.

**Spontaneous labyrinthine hemorrhage in sickle cell disease.** Whitehead, R. E., MacDonald, C. B., Melhem, E. R., McMahon, L. Department of Radiology, Boston Medical Center, MA 02118, USA. *American Journal of Neuroradiology* (1998) September, Vol. 19 (8), pp. 1437–40.

We report the clinical and MR imaging findings in two African-American patients with manifestations of sickle cell disease affecting the inner ear. Both suffered sudden-onset sensorineural hearing loss and vestibular symptoms, and both had high labyrinthine signal on T1-weighted MR images attributed to labyrinthine hemorrhage. Follow-up studies of the first patient revealed a decrease in abnormal vestibular signal. Careful attention to the labyrinth on T1-weighted MR images can reveal vestibulocochlear clinical findings in sickle cell patients, with important implications for management and prognosis. Author.

**Inverted papilloma of the nasal cavity and the paranasal sinuses: using CT for primary diagnosis and follow-up.** Dammann, F., Pereira, P., Laniado, M., Plinkert, P., Lowenheim, H., Claussen, C. D. Department of Diagnostic Imaging, University of Tuebingen, Germany. *American Journal of Roentgenology* (1999) February, Vol. 172 (2), pp. 543–8.

**OBJECTIVE:** Morphologic criteria for the diagnosis of primary and recurrent inverted papilloma as revealed on CT were evaluated in a large series. **MATERIALS AND METHODS:** Findings of 121 CT examinations that had been performed in 32 patients with histologically proven inverted papilloma were retrospectively analyzed using the following morphologic criteria: localization, size, surface configuration, and bony changes. **RESULTS:** Unilateral tumour localization involving the lateral nasal wall and the middle meatus was the feature that best correlated with the finding of primary inverted papilloma. A lobulated surface pattern was another typical sign, which was revealed on 19 of the 29 CT scans of patients with primary inverted papilloma. Although tumour localization and the finding of a newly grown soft-tissue mass were less reliable criteria to differentiate between recurrent inverted papilloma and post-operative complications or concomitant inflammatory disease, a lobulated surface pattern was seen on 26 of the 28 CT scans of patients with tumour recurrence but on only three of the 64 follow-up CT scans of patients without recurrent inverted papilloma. **CONCLUSION:** A unilateral mass within the nasal cavity or paranasal sinuses with a surface configuration that appears lobulated on CT is, to our knowledge, a new sign that

strongly suggests inverted papilloma as a primary diagnosis and also suggests inverted papilloma in patients with tumour recurrence. Author.

**Acute autoimmune sensorineural hearing loss associated with Crohn's disease.** Bachmeyer, C., Leclerc-Landgraf, N., Laurette, F., Coutarel, P., Cadranet, J. F., Medioni, J., Dhote, R., Mougeot-Martin, M. Department of Internal Medicine, Laennec Hospital, Creil, France. *American Journal of Gastroenterology* (1998) December, Vol. 93 (12), pp. 2565–7.

We report the sudden onset of bilateral hearing loss in a patient with Crohn's disease while the intestinal disease was quiescent. Antibodies directed against collagen type II were detected in the serum. Dramatic improvement of his hearing was observed under corticosteroid therapy. Diagnosis of autoimmune sensorineural hearing loss was established. This condition could be considered as an extraintestinal manifestation of Crohn's disease. Early diagnosis is mandated, as prompt and intensive treatment with corticosteroids and/or immunosuppressive drugs is effective and could prevent irreversible hearing loss. Author.

**Vocal cord and pharyngeal weakness with autosomal dominant distal myopathy: clinical description and gene localization to 5q31.** Feit, H., Silbergleit, A., Schneider, L. B., Gutierrez, J. A., Fitoussi, R. P., Reyes, C., Rouleau, G. A., Brais, B., Jackson, C. E., Beckmann, J. S., Seboun, E. Department of Neurology, Henry Ford Hospital, Detroit, Michigan, SA. *American Journal of Human Genetics* (1998) December, Vol. 63 (6), pp. 1732–42.

Distal myopathy refers to a heterogeneous group of disorders in which the initial manifestations are weakness and atrophy of the hands and feet. We report a family segregating an autosomal dominant distal myopathy, with multiple affected individuals in whom vocal cord and pharyngeal weakness may accompany the distal myopathy, without involvement of the ocular muscles. To our knowledge, this pedigree displays a distinct distal myopathy with the added features of pharyngeal and vocal cord dysfunction (VCPDM) that has not been previously reported. We mapped the MPD2 gene for VCPDM to chromosome 5q within a 12 cm linkage interval between markers D5S458 and D5S1972 in a large pedigree (a maximum LOD score of 12.94 at a recombination fraction of 0 for D5S393) and combined genome screening and DNA pooling successfully adapted to fluorescent markers. This technique provides for the possibility of fully automated genome scans. Author.

**Volumetric neuroimaging in Usher syndrome: evidence of global involvement.** Schaefer, G. B., Bodensteiner, J. B., Thompon, J. N. Jr., Kimberling, W. J., Craft, J. M. Munroe-Meyer Institute, Department of Pediatrics, University of Nebraska Medical Center, Omaha 68198-5430, USA. *American Journal of Medical Genetics* (1998) August 27, Vol. 79 (1), pp. 1–4.

Usher syndrome is a group of genetic disorders consisting of congenital sensorineural hearing loss and retinitis pigmentosa of variable onset and severity depending on the genetic type. It was suggested that the psychosis of Usher syndrome might be secondary to a metabolic degeneration involving the brain more diffusely. There have been reports of focal and diffuse atrophic changes in the supratentorial brain as well as atrophy of some of the structures of the posterior fossa. We previously performed quantitative analysis of magnetic resonance imaging studies of 19 Usher syndrome patients (12 with type I and seven with type II) looking at the cerebellum and various cerebellar components. We found atrophy of the cerebellum in both types and sparing of cerebellar vermis lobules I–V in type II Usher syndrome patients only. We now have studied another group of 19 patients (with some overlap in the patients studied from the previous report) with Usher syndrome (eight with type I, 11 with type II). We performed quantitative volumetric measurements of various brain

structures compared to age- and sex-matched controls. We found a significant decrease in intracranial volume and in size of the brain and cerebellum with a trend toward an increase in the size of the subarachnoid spaces. These data suggest that the disease process in Usher syndrome involves the entire brain and is not limited to the posterior fossa or auditory and visual systems. Author.

**An auricular paper model.** Yotsuyanagi, T., Watanabe, M., Sawada, Y. Department of Plastic and Reconstructive Surgery, Hirotsuki University School of Medicine, Japan. *Annals of Plastic Surgery* (1998) September, Vol. 41 (3), pp. 327–9.

We have devised a paper model of the auricle that is simple to design and easily fabricated. An oval-shaped sheet of paper is folded so that the prominent and hollow parts center around a helical crus and concha. Most parts of the human auricle can be created by using this model. Studies of the model show that a large skin area is required for the helical crus. The model is considered to be useful in simulating total or partial auricular reconstruction. It also reveals new possibilities in reconstructive methods using tissues composed of cartilage and skin, which are flat and large. Furthermore, it is interesting that the formation of our paper model by forward rotation and folding is compatible with the process of auricle embryonic development. Author.

**Olfactory function in acute rhinitis.** Hummel, T., Rothbauer, C., Barz, S., Grosser, K., Pauli, E., Kobal, G. Department of Otorhinolaryngology, University of Dresden, Germany. hummeltc@compuserve.com. *Annals of the New York Academy of Sciences* (1998) November 30, Vol. 855, pp. 616–24.

This study was performed to investigate the effects of the common cold on olfactory function, which was assessed using chemosensory event-related potentials (CSERP, in response to other olfactory (H2S) and trigeminal (CO2) stimuli) and psychophysical measures (intensity ratings, odour discrimination, butanol threshold); nasal volume was assessed by means of acoustic rhinometry. The investigation was performed in 36 subjects (18 women, 18 men). After onset of the rhinitis (day 0) measurements were performed on days two, four, six and 35. The cold produced a decrease of the volume of the anterior nasal cavity accompanied by an increase of mucus secretion, an increase of olfactory thresholds, a decrease of intensity ratings and a decrease of N1 CSERP amplitudes to olfactory and trigeminal stimuli. When mucus secretion of the contralateral nasal cavity was controlled with oxymetazoline, N1 amplitudes to olfactory stimuli were still affected by the cold as indicated by the significant increase of amplitudes as subjects recovered; this phenomenon was not found for responses to trigeminal stimuli. This indicates that the common cold has a small effect on olfactory function which may be independent of nasal congestion. Author.

**Sino-orbital aspergillosis in acquired immunodeficiency syndrome.** Johnson, T. E., Casiano, R. R., Kronish, J. W., Tse, D. T., Meldrum, M., Chang, W. Department of Ophthalmology, Bascom Palmer Eye Institute, Miami, Fla., USA. tjohnson@bpei.med.miami.edu. *Archives of Ophthalmology* (1999) January, Vol. 117 (1), pp. 57–64.

**OBJECTIVE:** To describe the clinical features, causes, imaging characteristics, treatment, and outcome of patients with the acquired immunodeficiency syndrome (AIDS) and sino-orbital aspergillosis. **DESIGN:** Records of five patients were reviewed. Results of imaging and histopathologic examinations and clinical courses of the patients were studied. **RESULTS:** There were three women and two men (mean age, 34.0 years). All had received a diagnosis of AIDS, and mean CD4+ cell count was  $0.014 \times 10^9/l$  ( $14 \text{ cells/mm}^3$ ). Computed tomographic scanning exhibited heterogeneous, enhancing sino-orbital soft tissue lesions with bony erosion, and magnetic resonance imaging disclosed soft tissue masses hypointense on T1- and T2-weighted images. The infection involved one or more paranasal sinuses, with extension into the right orbit in three patients and into the left orbit in two. Patients were treated with aggressive surgical debridement and intravenous antifungal agents. In addition, local irrigation of amphotericin B was performed in three patients. *Aspergillus fumigatus* was found to be the cause in all five patients. Intracranial extension developed in four patients, and all subsequently died. The two longest surviving patients were the only ones being treated with protease inhibitors. Three patients had a history of frequent marijuana smoking. **CONCLUSIONS:** Sino-orbital aspergillosis is a progressive, relentless, and usually fatal

opportunistic infection of advanced AIDS. Patients are first seen with long-standing headache and proptosis with minimal external inflammatory signs. Marijuana smoking may increase the risk for development of sino-orbital aspergillosis in these patients. Aggressive surgical and medical treatment, combined with newer combination therapies using protease inhibitors, may improve the longevity of these patients. Author.

**Inner ear pressure in Meniere's disease and fluctuating hearing loss determined by tympanic membrane displacement analysis.** Bouccara, D., Ferrary, E., El-Garem, H., Couloigner, V., Coudert, C., Sterkers, O. Service ORL et Chirurgie Cervico-Faciale, Hopital Beaujon, Clichy, France. *Audiology* (1998) September-October, Vol. 37 (5), pp. 255–61.

Meniere's disease and fluctuating hearing loss are related to labyrinthine fluid pressure variations. The development of a new indirect method of analysis of the tympanic membrane displacement during the stapedia reflex, using the Marchbanks Measurements System (MMS 10), allows us to study inner ear fluid pressure during these pathological conditions. In this study, measurements with this method were made in four groups of patients: a control group with normal hearing ( $n = 7$ ), stable sensorineural hearing loss ( $n = 9$ ), fluctuating hearing loss ( $n = 8$ ), and Meniere's disease ( $n = 25$ ). Results show, first, a good relationship between the recording of negative curves, suggesting a high pressure, and the acute episodes of fluctuating hearing loss; and, secondly, in the case of Meniere's disease two types of situation: positive and negative curves suggesting normal and high pressures, respectively. Author.

**Intranasal corticosteroids versus oral H1 receptor antagonists in allergic rhinitis: systematic review of randomised controlled trials.** Weiner, J. M., Abramson, M. J., Puy, R. M. Department of Medicine, Monash University, Melbourne, Victoria 3181, Australia. jmwiener@allergynet.com.au. *British Medical Journal* (1998) December 12, Vol. 317 (7173), pp. 1624–9.

**OBJECTIVE:** To determine whether intranasal corticosteroids are superior to oral H1 receptor antagonists (antihistamines) in the treatment of allergic rhinitis. **DESIGN:** Meta-analysis of randomized controlled trials comparing intranasal corticosteroids with oral antihistamines. **SETTING:** Randomized controlled trials conducted worldwide and published between 1966 and 1997. **SUBJECTS:** 2267 subjects with allergic rhinitis in 16 randomized controlled trials. **MAIN OUTCOME MEASURES:** Nasal blockage, nasal discharge, sneezing, nasal itch, postnasal drip, nasal discomfort, total nasal symptoms, nasal resistance, and eye symptoms and global ratings. Outcomes measured on different scales were combined to determine pooled odds ratios (categorical outcomes) or standardized mean differences (continuous outcomes). Assessment of heterogeneity between studies, and subgroup analyses of eye symptoms, were undertaken. **RESULTS:** Intranasal corticosteroids produced significantly greater relief than oral antihistamines of nasal blockage (standardized mean difference 0.63, 95 per cent confidence interval  $-0.73$  to  $-0.53$ ), nasal discharge ( $-0.5$ ,  $-0.6$  to  $-0.4$ ), sneezing ( $-0.49$ ,  $-0.59$  to  $-0.39$ ), nasal itch ( $-0.38$ ,  $-0.49$  to  $-0.21$ ), postnasal drip ( $-0.24$ ,  $-0.42$  to  $-0.06$ ), and total nasal symptoms ( $-0.42$ ,  $-0.53$  to  $-0.32$ ), and global ratings gave an odds ratio for deterioration of symptoms of 0.26 (0.08 to 0.8). There were no significant differences between treatments for nasal discomfort, nasal resistance, or eye symptoms. The effects on sneezing, total nasal symptoms, and eye symptoms were significantly heterogeneous between studies. Other combined outcomes were homogeneous between studies. Subgroup analysis of the outcome of eye symptoms suggested that the duration of assessment (averaged mean score over the study period versus mean score at end of study period) might have accounted for the heterogeneity. **CONCLUSION:** The results of this systematic review, together with data on safety and cost effectiveness, support the use of intranasal corticosteroids over oral antihistamines as first line treatment for allergic rhinitis. Author.

**A distributed cortical network for auditory sensory memory in humans.** Alain, C., Woods, D. L., Knight, R. T. Rotman Research Institute, Baycrest Centre for Geriatric Care, 3560 Bathurst Street, North York, Toronto, Ontario, Canada. calain@rotmanbaycrest.on.ca. *Brain Research* (1998) November 23, Vol. 812 (1–2), pp. 23–37.

Auditory sensory memory is a critical first stage in auditory perception that permits listeners to integrate incoming acoustic information with stored representations of preceding auditory events. Here, we investigated the neural circuits of sensory memory using behavioural and electrophysiological measures of auditory processing in patients with unilateral brain damage to dorsolateral prefrontal cortex, posterior association cortex, or the hippocampus. We used a neurophysiological marker of an automatic component of sensory memory, the mismatch negativity (MMN), which can be recorded without overt attention. In comparison with control subjects, temporal-parietal patients had impaired auditory discrimination and reduced MMN amplitudes with both effects evident only following stimuli presented in the ear contralateral to the lesioned hemisphere. This suggests that auditory sensory memories are predominantly stored in auditory cortex contralateral to the ear of presentation. Dorsolateral prefrontal damage impaired performance and reduced MMNs elicited by deviant stimuli presented in either ear, implying that dorsolateral prefrontal cortices have a bilateral facilitatory effect on sensory memory storage. Hippocampal lesions did not affect either performance or electrophysiological measures. The results provide evidence of a temporal-prefrontal neocortical network critical for the transient storage of auditory stimuli. Copyright 1998 Elsevier Science B.V. Author.

**Oral and systemic effects of prolonged minocycline therapy.** Patel, K., Cheshire, D., Vance, A. Eastman Dental Hospital, London. *British Dental Journal* (1998) December 12-26, Vol. 185 (11-12), pp. 560-2.

The following case report shows the unfortunate side effects of minocycline therapy used in the management of facial acne. All three features of discoloration affecting the skin, bone and dentition were found. A 46-year-old patient presented with adult onset discoloration of the dentition following prolonged minocycline therapy. In addition, oral and cutaneous pigmentation were noted. Unfortunately, the undesirable cosmetic appearance of facial acne was exchanged for permanent discoloration of the dentition. When considering prolonged minocycline therapy, patients would benefit from dialogue between the medical and dental practitioners, so that the risk of this potential side effect can be assessed in a more informed way. Author.

**Use of transient evoked otoacoustic emissions to detect and monitor cochlear damage caused by platinum-containing drugs.** Yardley, M. P., Davies, C. M., Stevens, J. C. Department of Otorhinolaryngology, Royal Hallamshire Hospital, Sheffield, UK. *British Journal of Audiology* (1998) October, Vol. 32 (5), pp. 305-16.

Transient evoked otoacoustic emissions (TEOAE) have been evaluated as a means of monitoring cochlear function in patients receiving the chemotherapeutic agents cisplatin and carboplatin (-cis-diammine-1, 1-cyclobutane dicarboxylate (2) -0,0-platinum). Patients receiving these drugs were monitored prospectively with pure tone audiometry (PTA), tympanometry and TEOAE. Data was collected on 22 subjects receiving cisplatin and nine subjects receiving carboplatin. Significant deterioration in both PTA thresholds and TEOAE energy levels (with no change in tympanometry) were detected in the cisplatin group. No significant deterioration in audiological parameters occurred in the carboplatin group. It is indicated that cisplatin has a significant ototoxic effect in the majority of patients, whereas any ototoxic effect of carboplatin was undetectable. Our findings were different from previous studies in that the measurable changes in TEOAE occurred later than changes in the pure tone audiogram for the cisplatin group. Author.

**Cutaneous presentation of nasal/nasal type T/NK cell lymphoma: clinicopathological findings of four cases.** Miyamoto, T., Yoshino, T., Takehisa, T., Hagari, Y., Mihara, M. Department of Dermatology, Tsuyama Central Hospital, 67 Nikaimachi, 708 Tsuyama, Japan. *British Journal of Dermatology* (1998) September, Vol. 139 (3), pp. 481-7.

Epstein-Barr virus (EBV)-associated T/natural killer (NK) cell lymphoma mainly shows nasal lesions, and has recently been shown to be associated with cutaneous T-cell lymphoma (CTCL). The detailed features of CTCL nasal metastases have yet to be elucidated. We report clinicopathological findings for four cases of cutaneous T/NK cell lymphoma with metastasis to the nose. The

four patients presented progressive involvement of nasal lesions of CTCL, an aggressive course and poor outcome. Their pathological and immunohistological findings were consistent with peripheral T/NK cell neoplasm and, in three of four cases, EBER-1 were apparently detected in lymphoma cells by in situ hybridization, and two of four cases were also positive for TIA-1. The polymerase chain reaction (PCR) results showed the identical band from the skin and nasal lesions of the two patients. We also reviewed the cases of similar clinical course and attempted to elucidate clinical, pathological, immunological and genotypic features. The 10 reported cutaneous T/NK cell lymphomas with nasal metastasis revealed a poor prognosis (nine of 10 died at three to 108 months). Six cases of nine showed a positive reaction to EBV, and six cases revealed T-cell receptor beta or -gamma rearrangement. These findings suggest that most cutaneous T/NK cell lymphoma with nasal metastasis are similar to nasal T-cell lymphoma associated with EBV infection. This type of cutaneous T/NK cell lymphoma likely to involve nasal lesions and skin cases seemed to have a poor prognosis. Author.

**A single-blind, placebo-controlled trial of a simple acupuncture treatment in the cessation of smoking.** Waite N. R., Clough, J. B. Child Health, Southampton Hospital. *British Journal of General Practice* (1998) August, Vol. 48 (433), pp. 1487-90.

**BACKGROUND:** Tobacco smoking is a major cause of preventable disease and premature death. Physicians should play an active role in the control of smoking by encouraging cessation and helping the smoker to choose the most suitable aid to cessation. **AIM:** To evaluate a simple, ear acupuncture treatment for the cessation of smoking. **METHOD:** Randomized, single-blind, placebo-controlled trial of 78 currently smoking volunteers from the general public. Volunteers attended an acupuncture clinic in a general practice setting and were given a single treatment of electroacupuncture using two needles at either an active or a placebo site plus self-retained ear seeds for two weeks. The major outcome measure was biochemically validated total cessation of smoking at six months. **RESULTS:** A total of 12.5 per cent of the active treatment group compared with 0 per cent of the placebo group ceased smoking at six months ( $p = 0.055$ , 95 per cent confidence interval -0.033 to 0.323). **CONCLUSION:** This simple ear electroacupuncture treatment was significantly more effective in helping volunteers to quit smoking than placebo treatment. Author.

**Medicinal leeches used to salvage a traumatic nasal flap.** Mortenson, B. W., Dawson, K. H., Murakami, C. Department of Oral and Maxillofacial Surgery, The University of Washington, Seattle 98195-7134, USA. *British Journal of Oral and Maxillofacial Surgery* (1998) December, Vol. 36 (6), pp. 462-4.

We report a case in which medicinal leeches (*Hirudo medicinalis*) were used to rescue a traumatic nasal flap from venous congestion and loss. A healthy 18-year-old had a bicycling accident and, in addition to other facial injuries, presented with a complex full thickness nasal laceration. After he had been resuscitated and the flap sutured, he was treated with two leeches four times a day for 48 h. His recovery was satisfactory and uncomplicated. Oral and maxillofacial surgeons should be familiar with the use of leeches, as they have a small but occasionally important role in the management of both traumatic and reconstructive flaps. Author.

**Reconstruction of nasal defects with implant-retained nasal prostheses.** Flood, T. R., Russell, K. Odstock Centre for Plastic and Maxillofacial Surgery, Salisbury District Hospital, Wiltshire, UK. *British Journal of Oral and Maxillofacial Surgery* (1998) October, Vol. 36 (5), pp. 341-5.

Predictable biomechanical retention of nasal prostheses can now be achieved using Branemark osseointegrated implants. These prostheses are tissue compatible, simple in design and easy to place, can be worn independently of spectacles and can in the majority of cases be provided soon after surgical excision. We have treated 14 patients (30 implants) eight of whom had the implants placed at the time of surgical excision of the tumour. The longest survival so far has been 62 months (mean 38 months). Craniofacial osseointegration changes patients' perceptions of a nasal prosthesis and improves quality of life. Initial reconstructive surgery after radical nasal excision should be limited to reconstruction of the upper lip and preparation of the surgical defect for an implant-retained prosthesis. Author.

**The long-term effects of capsaicin aqueous spray on the nasal mucosa.** Blom, H. M., Severijnen, L. A., Van Rijswijk, J. B., Mulder, P. G., Van Wijk, R. G., Fokkens, W. J. Department of Otorhinolaryngology, Erasmus University Medical Centre, Rotterdam, The Netherlands. *Clinical and Experimental Allergy* (1998) November, Vol. 28 (11), pp. 1351–8.

**BACKGROUND:** Capsaicin has been shown previously to reduce nasal complaints in patients with a non-allergic non-infectious perennial rhinitis. Proposed pathophysiological mechanisms for non-allergic non-infectious perennial rhinitis include a chronic inflammatory disorder of an antigenic or neurogenic nature as well as the possibility of a functional neuronal disorder. We hypothesized that the beneficial effect of capsaicin might be the result of a down-regulation of inflammation (by a reduction of inflammatory cells) or through modulation of neural tissue density. **METHODS:** Patients were treated with either a placebo or capsaicin spray solution delivering 0.15 mg of capsaicin per nostril once every second or third day for a total of seven treatments. Both sides were treated each visit. Biopsies were taken before and two weeks, three months and nine months after the treatment period. Immunohistochemical staining of the biopsy specimen was performed to ascertain the effect of treatment on immunocompetent cell densities (quantitative) and neural tissue densities (semi-quantitative) in the nasal mucosa. **RESULTS:** Nasal complaints were significantly reduced in the capsaicin-treated group. The number of CD1+, CD25+, CD3+, CD68+, BMK13+, IgE+, tryptase+, and chymase+ cells did not significantly differ between capsaicin and placebo group. No significant differences between both groups were found in pan-neurogenic staining of nasal mucosa using neurofilament and synaptophysine. **CONCLUSION:** Capsaicin aqueous nasal spray has previously been shown to reduce nasal complaints without affecting cellular homeostasis or overall neurogenic staining up to nine months after treatment. Immunocompetent cells are not involved in non-allergic non-infectious perennial rhinitis. Author.

**Human papilloma virus and p53 in head and neck cancer: clinical correlates and survival.** Haraf, D. J., Nodzinski, E., Brachman, D., Mick, R., Montag, A., Graves, D., Vokes, E. E., Weichselbaum, R. R. Department of Radiation, Section of Hematology, The University of Chicago, Illinois 60637, USA. *Clinical Cancer Research* (1996) April, Vol. 2 (4), pp. 755–62.

Recent studies have shown that p53 mutations are frequently found in cancer of the head and neck, whereas others have indicated that human papilloma virus (HPV) infection may be involved. Thus far, no studies have examined both p53 and HPV in the same patient population and correlated the results with clinical characteristics and outcome. The purpose of this study was to examine any interrelationship between p53 and HPV in patients with squamous cell carcinoma (SCC) of the head and neck. We also planned to correlate the experimental findings with clinical characteristics, known risk factors, and treatment outcome to determine whether any prognostic factors could be detected. Archival material from 66 patients with SCC of the head and neck were selected for study based on the availability of tissue from the primary tumours prior to treatment. A data base was constructed containing all clinical parameters at the time of diagnosis and risk factors. Genomic DNA was isolated and amplified using PCR, followed by SSCP analysis and direct genomic sequencing of all variants to detect p53 mutations. Two independent methods were used for HPV detection: (a) PCR amplification using primers homologous to the E6 region of HPV 16, 18, and 33, followed by

RFLP analysis; and (b) PCR amplification with HPV L1 consensus primers, followed by triple restriction enzyme digestion. The results were entered into the data base for statistical analysis. Twenty-four per cent of patients were found to have p53 mutations, and 18 per cent were positive for HPV infection. Only one patient was positive for both. Tonsillar cancer was strongly correlated with HPV ( $p = 0.0001$ ) and inversely correlated with p53 ( $p = 0.03$ ). The only clinical parameter associated with p53 mutation was a trend toward a heavier smoking history. A subset analysis of the patients with tonsillar cancer revealed inverse correlations with smoking ( $p = 0.015$ ) and alcohol use ( $p = 0.05$ ). Also, white patients with SCC of the tonsil were more likely to be HPV positive ( $p = 0.015$ ). No significant relationships with outcome were detected with either p53 or HPV in the entire population. A subset analysis of patients with stage IV disease revealed that HPV infection was correlated with overall survival. This is the largest study to date to examine both p53 and HPV in patients with SCC of the head and neck. Our results suggest that HPV may be involved in the development of these cancers in patients without traditional risk factors and that HPV-related cancers are more prevalent in the white race. Author.

**Prediction of occult neck metastases in laryngeal carcinoma: role of proliferating cell nuclear antigen, MIB-1, and E-cadherin immunohistochemical determination.** Franchi, A., Gallo, O., Boddi, V., Santucci, M. Institute of Anatomic Pathology, Otolaryngology Clinic, and Institute of General Pathology, University of Florence, Viale G.B. Morgagni 85, 50134 Florence, Italy. *Clinical Cancer Research* (1996) October, Vol. 2 (10), pp. 1801–8.

The aim of this study is to investigate the predictive value of proliferative activity assessment and E-cadherin expression by means of immunohistochemistry in identifying patients with laryngeal squamous cell carcinoma at a high risk for occult node metastasis. Thirty consecutive patients treated for laryngeal carcinoma with false clinically negative nodes (occult metastases, pN+) between the years 1980 and 1990 were selected for this study. A group of 30 cases with negative cervical lymph nodes (pN-) having a similar anatomic site and tumour size distribution was used as control. In each case, several histological parameters, including grade, pattern of invasion, number of mitosis ( $\times 10$  high-power field), tumour inflammatory infiltrate, and tumour sclerosis, were assessed. Proliferative activity was determined using immunohistochemical staining for proliferating cell nuclear antigen (PCNA) and MIB-1. Other putative prognostic factors investigated at the immunohistochemical level were the cell adhesion molecule E-cadherin and two oncoproteins, p53 and c-erbB-2. In pN+ cases, the expression of PCNA and MIB-1 was significantly higher than in the pN- group. Moreover, a significant loss of E-cadherin expression was observed in carcinomas with occult metastases. No differences in p53 and c-erbB-2 oncoproteins were found between pN+ and pN- cases. Among the other pathological parameters examined, only histological grade was significantly associated with the presence of occult metastases, but on multivariate analysis, this relationship was lost. We conclude that PCNA, MIB-1, and E-cadherin are independent predictors of occult nodal disease in laryngeal squamous cell carcinoma, and their immunohistochemical determination could be useful in identifying patients with clinically negative lymph nodes who are at considerable risk for occult metastases and who may benefit from elective neck dissection. Author.