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Abstract Selection

Power Doppler sonography of cervical lymph nodes in patients with head and neck cancer. Ariji, Y., Kimura, Y., Hayashi, N., Onitsuka, T., Yonetsu, K., Hayashi, K., Ariji, E., Kobayashi, T., Nakamura, T. Department of Radiology and Cancer Biology, Nagasaki University School of Dentistry, Sakamoto, Japan. *American Journal of Neuroradiology* (1998) February, Vol. 19 (2), pp. 303–7.
PURPOSE: The purpose of this preliminary study was to evaluate the usefulness of power Doppler sonography in differentiating metastatic from nonmetastatic cervical lymph nodes in patients with cancer. METHODS: Histologically proved metastatic (n = 71) and nonmetastatic (n = 220) lymph nodes were examined with power Doppler sonography in 77 patients with head and neck cancer. Power Doppler sonography was assessed for its ability to differentiate metastatic from nonmetastatic lymph nodes. RESULTS: Power Doppler sonography showed characteristic features of parenchymal blood flow signal in 59 (83 per cent) of the 71 metastatic lymph nodes. By contrast, only four (two per cent) of the 220 nonmetastatic nodes showed these power Doppler signals. In addition, power Doppler sonography showed high levels of sensitivity (83 per cent) and specificity (98 per cent) in depicting metastatic lymph nodes, which were superior to the values (66 per cent sensitivity and 92 per cent specificity) obtained by applying size criteria (transverse to longitudinal ratio). However, a combination of the two criteria (parenchymal colour signal and transverse to longitudinal ratio) improved diagnostic accuracy to 92 per cent sensitivity and 100 per cent specificity. CONCLUSION: Our preliminary findings suggest that the power Doppler criteria of no hilar flow, peripheral parenchymal nodal flow, and a transverse to longitudinal ratio of more than 0.65 together constitute a powerful tool for depicting metastatic lymph nodes in patients with cancer. Author.

Epidemiology of permanent childhood hearing impairment in Trent Region, 1985–1993. Fortnum, H., Davis, A. MRC Institute of Hearing Research, Nottingham. *British Journal of Audiology* (1997) December, Vol. 31 (6), pp. 409–46.
This retrospective study of permanent childhood hearing impairment (PCHI) > or = 40 dB HL in children born between 1985 and 1993 and resident in Trent Health Region, achieved an ascertainment of 92.9 per cent of that expected from previous studies and 100 per cent for the subset of children born between 1985 and 1990. The prevalence rate of all permanent hearing impairment > or = 40 dB HL for the birth cohort 1985–90 is 133 (95 per cent confidence interval, (ci) 122–145) per 100,000 live births (one in 750). Sixteen per cent of PCHI were postnatally acquired, late-onset or progressive impairments. Excluding these, the prevalence rate for congenital impairments is 112 (ci 101–123) per 100,000 (one in 900). The rate for profound impairments > or = 95 db HL is 24 (ci 20-30) per 100,000 live births (one in 4,150). Prevalence was increased sixfold for children with a history of neonatal intensive care and 14-fold for children with a family history, compared with children with no risk factors. A more than two-fold increase in prevalence was seen in Asian children. For the congenitally-impaired children born between 1985 and 1990, 29 per cent had a stay in neonatal intensive care > or = 48 hours, 30 per cent had a family history of permanent childhood hearing impairment, and 12 per cent had a cranio-facial abnormality (CFA). Over 59 per cent were potentially detectable by a targeted neonatal screening programme using these three high-risk factors. For 1985–93, the overall yield of the targeted neonatal screening programmes available in three of the 11 health districts was 15 per cent but increased over time. The overall yield from the Health Visitor distraction test was 30 per cent but lower in districts with neonatal screening programmes. Only 59 per cent of children had a stated aetiology, classified by time of onset into genetic, including syndromes and CFA (41 per cent), pre- or peri-natal (10 per cent), post-natally acquired (six per cent), and uncertain onset (two per cent). Just under 40 per cent of the children were said to have another clinical or developmental problem, about half of whom had at least two additional problems. The median age at referral, confirmation of the impairment, prescription of the hearing aid and fitting of the hearing aid were, respectively, 10.4 months 18.1 months, 24.4 months and 26.3 months. A more severe impairment was associated with earlier age. Small improvements in the median age of hearing aid prescription and fitting were seen over time. Twenty-five per cent of children were referred for genetic counselling, the proportion increasing systematically with the severity of the impairment. Based on evidence of the yield from hearing screens we suggest a wider implementation of neonatal screening and further consideration of the role of the health visitor distraction test in the identification of children with PCHI. To facilitate further assessment of services for hearing-impaired children we suggest implementation of a co-ordinated shared list of children with permanent hearing impairment on a region-wide basis to provide adequate numbers for comparison over time, and the routine collection of a minimum set of data for each child. Author.

Role of glutathione in protection against noise-induced hearing loss. Yamasoba, T., Nuttall, A. L., Harris, C., Raphael, Y., Miller, J. M. Kresge Hearing Research Institute, The University of Michigan, 1301 East Ann Street, Ann Arbor, MI 48109-0506, USA. *Brain Research* (1998) February 16, Vol. 784 (1–2), pp. 82–90.
A potential mechanism of hearing loss due to acoustic overstimulation is the generation of reactive oxygen species (ROS). ROS not removed by antioxidant defenses could be expected to cause significant damage to the sensory cells of the cochlea. We studied the influence of the antioxidant glutathione (GSH) on noise-induced hearing loss by using 1-buthionine-(S, R)-sulfoximine (BSO), an inhibitor of GSH synthesis, and 2-oxothiazolidine-4-carboxylate (OTC), a cysteine prodrug, which promotes rapid restoration of GSH when GSH is acutely depleted. Pigmented female guinea pigs were exposed to broadband noise (102 dB SPL, three h/day, five days) while receiving daily injections of BSO, OTC, or saline. By weeks two and three after noise exposure, BSO-treated animals showed significantly greater threshold shifts above 12 kHz than saline-treated subjects, whereas OTC-treated animals showed significantly smaller threshold shifts at 12 kHz than controls. Histologically assessed noise-induced damage to the organ of Corti, predominantly basal turn row one outer hair cells, was most pronounced in BSO-treated animals. High performance liquid chromatographic analysis showed that OTC significantly increased cysteine levels, but not GSH levels, in the cochlea. These findings show that GSH inhibition increases the susceptibility of the cochlea to noise-induced damage and that replenishing GSH, presumably by enhancing availability of cysteine, attenuates noise-induced cochlear damage. Copyright 1997 Elsevier Science B.V. Author.

Tumour thickness predicts cervical metastasis in patients with stage I/II carcinoma of the tongué. Asakage, T., Yokose, T., Mukai, K., Tsugane, S., Tsubono, Y., Asai, M., Ebihara, S. Department of Head and Neck Surgery, National Cancer Center Hospital East, Chiba, Japan. *Cancer* (1998) April 15, Vol. 82 (8), pp. 1443–8.
BACKGROUND: The incidence of cervical metastases after surgery for Stages I/II carcinoma of the tongue is 30-40 per cent. Postoperative cervical metastases are an adverse prognostic factor for patients with this malignancy. The purpose of this study was to evaluate the clinicopathologic factors associated with late cervical metastases in patients with carcinoma of the tongue. METHODS: The clinicopathologic features of 44 patients with previously untreated Stage I/II carcinoma of the tongue were reviewed. All

patients were treated with partial glossectomy only. RESULTS: Cervical metastases developed in 21 of 44 patients within five years. Factors significantly associated with the development of cervical metastases were invasive growth, differentiation, nuclear polymorphism in the deep portion, tumour border, nest formation, infiltrative growth ratio, depth, and thickness. No statistical correlations between cervical metastases and age, gender, tumour location, clinical stage, Brinkman index, alcohol index, mitosis, connective tissue, lymphocytic infiltration, or perineural invasion were found. Multivariate analysis demonstrated that only tumour thickness >4mm had a predictive value for cervical metastasis (risk ratio 9.4; 95 per cent confidence interval, 1.5–57.7). CONCLUSIONS: The current study data indicate that patients with Stage I/II carcinoma of the tongue >4 mm in thickness are at increased risk for subsequent cervical metastasis. Thus, conservative supraomohyoid neck dissection is indicated in patients with Stage I/II carcinoma of the tongue >4 mm in thickness. Author.

Velopharyngeal function in nonsyndromic cleft palate: relevance of surgical technique, age at repair, and cleft type. Marrinan, E. M., LaBrie, R. A., Mulliken, J. B. Department of Medicine, Children's Hospital/Harvard Medical School, Boston, Massachusetts 02115, USA. *Cleft Palate and Craniofacial Journal* (1998) March, Vol. 35 (2), pp. 95–100.
OBJECTIVE: The goal of this study was to determine the relative importance of surgical technique, age at repair, and cleft type for velopharyngeal function. DESIGN: This was a retrospective study of patients operated on by two surgeons using different techniques (von Langenbeck and Veau-Wardill-Kilner (VY)) at Children's Hospital, Boston, MA. PATIENTS: We included 228 patients who were at least four years of age at the time of review. Patients with identifiable syndromes, nonsyndromic Robin sequence, central nervous system disorders, communicatively significant hearing loss, and inadequate speech data were excluded. MAIN OUTCOME MEASURE: Need for a pharyngeal flap was the measure of outcome. RESULTS: Pharyngeal flap was necessary in 14 per cent of von Langenbeck and 15 per cent of VY repaired patients. There was a significant linear association ($p = 0.025$) between age at repair and velopharyngeal insufficiency (VPI). Patients with an attached vomer, soft cleft palate (SCP), and unilateral cleft lip/palate (UCLP) had a 10 per cent flap rate, whereas those with an unattached vomer, hard/soft cleft palate (HSCP), and bilateral cleft lip/palate (BCLP) had a 23 per cent flap rate ($p = 0.03$). Age at repair was critical for the unattached-vomer group ($p = .03$) but was not statistically significant for the attached-vomer group ($p = 0.52$). CONCLUSIONS: Surgical technique was not a significant variable either in aggregate or for the Veau types. Patients in the earliest repair group (eight to 10 months) were the least likely to require a pharyngeal flap. Early repair was more critical for HSCP and BCLP patients. There was no correlation between velopharyngeal insufficiency and Veau hierarchy. The attached vomer/levator muscle complex may be a more important predictor of surgical success than the anatomic extent of cleft. Author.

Expression and localization of the inducible isoform of nitric oxide synthase in nasal polyp epithelium. Watkins, D. N., Lewis, R. H., Basclain, K. A., Fisher, P. H., Peroni, D. J., Garlepp, M. J., Thompson, P. J. The University Department of Medicine, Queen Elizabeth II Medical Centre, Nedlands, Western Australia. *Clinical Experiments in Allergy* (1998) February, Vol. 28 (2), pp. 211–9.
BACKGROUND: The pathogenesis of nasal polyp disease is poorly understood. Recent evidence has suggested that nitric oxide (NO), an endogenous soluble gas vasodilator and inflammatory mediator, may be synthesized within the nasal cavity. Three nitric oxide synthase isoforms have been identified in humans, with the inducible isoform (iNOS) generally expressed in the setting of inflammation. OBJECTIVE: The aim of this study was to detect and localize iNOS expression in nasal polyp tissue, and compare these findings with normal nasal turbinate tissue. METHODS: We examined the expression and localization of inducible nitric oxide synthase (iNOS) in human nasal airway specimens from patients undergoing elective nasal turbinectomy (n = 5) or nasal polypectomy (n = 5). iNOS mRNA expression was determined by semi-quantitative reverse transcription-polymerase chain reaction (RT-PCR) followed by Southern blot analysis and localized by in situ hybridization. Densitometric data were analyzed using Student's unpaired *t*-test. Adjacent sections were also examined for iNOS protein expression by immunohistochemistry. RESULTS: Semi-quantitative RT-PCR/Southern analysis of RNA obtained from the 10 surgical specimens demonstrated that iNOS mRNA expression was significantly increased in the five nasal polyps ($p<0.05$). In situ hybridization studies revealed strong iNOS mRNA signal localized to the respiratory epithelium of nasal polyps, but not nasal turbinates. This pattern was confirmed by immunohistochemistry. Localization to inflammatory cells or other subepithelial structures was not seen. CONCLUSIONS: We conclude that iNOS expression is upregulated in nasal polyp disease, and is localized to the polyp epithelial layer. These data reinforce the concept that the epithelial layer may be important in the pathogenesis of nasal disease, and suggest a potential role for NO in the formation of nasal polyps. Author.

A preliminary report: clinical effects of otic solution of ofloxacin in infantile myringitis and chronic otitis media. Kaga, K., Ichimura, K. Department of Otorhinolaryngology, Faculty of Medicine, University of Tokyo, Japan. kimikaga-tky@umin.u-tokyo.acjp. *International Journal of Pediatric Otorhinolaryngology* (1998) January, Vol. 42 (3), pp. 199–205.
Patients with infantile myringitis or chronic otitis media may refuse treatment when antibiotics are to be administered orally. The present study was undertaken to treat myringitis and chronic otitis media with an otic solution of non-ototoxic ofloxacin in 21 children aged 0–15 years. They consisted of eight normal children, four children operated on for microtia, and nine so-called handicapped children mainly with advanced hearing impairment and retardation in mental development, or eight children with myringitis and 13 children with chronic suppurative otitis media. Otic solution of ofloxacin was instilled into the ear twice daily, in the morning and evening, for seven days or more, the treatment time being 10 min. With the causative pathogen completely eradicated in 14 patients and the bacterial count reduced in three patients and unchanged in two patients, the results of treatment with ofloxacin may be considered to be excellent. Author.

Chlamydia trachomatis: an underestimated cause for rhinitis in neonates. Iskandar, N. M., Naguib, M. B. Unit of Otolaryngology, Faculty of Medicine, Suez Canal University, Ismailia, Egypt. *International Journal of Pediatric Otorhinolaryngology* (1998) January, Vol. 42 (3), pp. 233–7.
The incidence of Chlamydia trachomatis genital tract infection among randomly selected attendants of the ante-natal clinic of the Suez Canal University Hospital, Ismailia, Egypt, during 1996 was detected. It was found to be nine per cent by examining endocervical swabs using the direct immunofluorescent test and 13 per cent after serological detection by the indirect immunofluorescent test. The incidence of neonatal Chlamydia infection in the same population assessed by nasal and conjunctival swabs tested for Chlamydia using the direct immunofluorescent test was found to be nine per cent. In spite of the low incidence of neonatal Chlamydia infection detected in this study, neonates 'at risk' i.e. born to infected mothers, showed a high rate of Chlamydia transmission (57 per cent) with 21.4 per cent of the infected neonates presenting with this specific rhinitis. This study documents Chlamydia trachomatis as an underestimated cause of rhinitis in neonates characterized by being resistant to empirical remedies. Author.

Effects of HCl-pepsin larygneal instillations on upper airway patency-maintaining mechanisms. Sant-Ambrogio, F. B., Sant-Ambrogio, G., Chung, K. Departments of Physiology and Biophysics and of Anatomy and Neuroscience, The University of Texas Medical Branch, Galveston, Texas 77555, USA. fsantamb@utmb.edu. *Journal of Applied Physiology* (1998) April, Vol. 84 (4), pp. 1299–304.
Gastroesophageal reflux has been indicated as an etiopathological factor in disorders of the upper airway. Upper airway collapsing pressure stimulates pressure-responsive laryngeal receptors that reflexly increase the activity of upper airway abductor muscles. We studied, in anesthetized dogs, the effects of repeated laryngeal instillations of HCl-pepsin (HCl-P; pH = 2) on the response of laryngeal afferent endings and the posterior cricoarytenoid muscle (PCA) to negative pressure. The effect of negative pressure on receptor discharge or PCA activity was evaluated by comparing their response to upper airway (UAO) and tracheal occlusions (TO). It is only during UAO, but not during TO, that the larynx is

subjected to negative transmural pressure. HCl-P instillation decreased the rate of discharge during UAO of the 10 laryngeal receptors studied from 56.4 ± 10.9 (SE) to 38.2 ± 9.2 impulses/s ($p<0.05$). With UAO, the peak PCA moving time average, normalized by dividing it by the peak values of esophageal pressure, decreased after six HCl-P trials from 4.29 ± 0.31 to 2.23 ± 0.18 (n = 6; $p<0.05$). The responses to TO of either receptors or PCA remained unaltered. We conclude that exposure of the laryngeal mucosa to HCl-P solutions, as it may occur with gastroesophageal reflux, impairs the patency-maintaining mechanisms provided by laryngeal sensory feedback. Inflammatory and necrotic alterations of the laryngeal mucosa are likely responsible for these effects. Author.

Head and neck lipomas: sonographic appearance. Ahuja, A. T., King, A. D., Kew, J., King, W., Metreweli, C. Department of Diagnostic Radiology and Organ Imaging, Prince of Wales Hospital, Shatin NT, Hong Kong. *American Journal of Neuroradiology* (1998) March, Vol. 19 (3), pp. 505–8.
PURPOSE: The diagnosis of cervical lipoma may not always be clinically apparent, in which case patients are frequently referred for sonography. The purpose of this study was to document the sonographic features of head and neck lipomas. METHODS: Twenty-five patients with soft-tissue masses in the neck had sonography as their initial imaging study. A lipoma was suspected on the basis of findings at clinical examination in only eight of these patients. Lipoma was confirmed by fine-needle aspiration cytology in 11 patients, by excision biopsy in five patients, by CT in two patients, and by clinical examination with clinical sonographic follow-up (six months to two years) in seven cases. RESULTS: Lipomas were well-defined (88 per cent), compressible (100 per cent), elliptical masses with the longest diameter parallel to the skin surface. All contained multiple echogenic lines parallel to the skin surface with no evidence of posterior enhancement or attenuation and no flow on colour Doppler sonography. Compared with adjacent muscle, 76 per cent of all lipomas were hyperechoic, eight per cent isoechoic, and 16 per cent hypoechoic. CONCLUSION: The characteristic sonographic appearance of head and neck lipomas is that of an elliptical mass parallel to the skin surface that is hyperechoic relative to adjacent muscle and that contains linear echogenic lines at right angles to the ultrasound beam. Author.

MR of denervated tongue: temporal changes after radical neck dissection. Murakami, R., Baba, Y., Nishimura, R., Baba, T., Okuda, T., Utsunomiya, D., Ishikawa, T., Takahashi, M. Department Radiology, Kumamoto University School of Medicine, Honjo, Japan. *American Journal of Neuroradiology* (1998) March, Vol. 19 (3), pp. 515–8.
PURPOSE: The purpose of this study was to evaluate the temporal changes of MR imaging in the denervated tongue after a radical neck dissection. METHODS: One hundred and seventy-four consecutive MR studies in 116 patients with radical neck dissections for malignant tumours of the head and neck were evaluated retrospectively. Patients with tumours involving the tongue or hypoglossal nerve were not included in this study. RESULTS: Abnormal signal intensity and/or hemiatrophy on the side of the tongue operated on was seen in 22 patients who had hypoglossal paralysis after radical neck dissection. The denervated side of the tongue appeared hypointense to hyperintense relative to the normal side on T1-weighted images and hyperintense on T2-weighted images. Signal intensity ratios of the abnormal to normal muscles were 0.9–1.6 on T1-weighted images and 1.3–2.8 on T2-weighted images. High signal intensity on T1-weighted images appeared five months or more after the dissection, whereas on T2- weighted images, the most prominent increases in signal intensity appeared in the first several months after denervation. Hemiatrophy of the tongue was observed on MR images obtained more than six months after surgery. CONCLUSION: MR findings in the denervated tongue are compatible with histologic changes and are characterized by an enlarged extracellular fluid space or fatty infiltration. The pattern of signal intensity and the degree of hemiatrophy suggest the duration of denervation. Author.

Effects of damp and mould in the home on respiratory health: a review of the literature. Peat, J. K., Dickerson, J., Li, J. *Allergy* (1998) February, Vol. 53 (2), pp. 120–8.
This review examines whether there is a direct or indirect relation between damp or mould in the home and respiratory health. Home dampness is thought to have health consequences because it has the potential to increase the proliferation of house-dust mites and moulds, both of which are allergenic. The results from the many studies conducted to investigate whether damp and mould are associated with health outcomes are difficult to compare because the methods of measuring exposures and health outcomes have not been standardized. However, the studies that have been conducted in children are probably the most reliable because the confounding effects of active smoking or occupational exposures are absent, and because the presence of symptoms of cough and wheeze have been consistently investigated in many studies. The increased risk of children having these symptoms if the home has damp or mould is fairly small with an odds ratio that is generally in the range 1.5–3.5, these estimates being statistically significant when the sample size has been large enough. This range is consistent with the measured effects of other environmental exposures which are considered important to health, such as environmental tobacco smoke or outdoor air pollutants. The potential benefits of reducing mould in the home have not been investigated, and the few studies that have investigated health improvements as a result of increasing ventilation or reducing damp in order to reduce house-dust mite levels suggest that this intervention is expensive, requires a large commitment, and is unlikely to be successful in the long term. This implies that houses need to be specifically designed for primary prevention of respiratory problems associated with indoor allergen proliferation rather than using post hoc procedures to improve indoor climate and reduce allergen load as a secondary or tertiary preventive strategy. Author.

Sense of small in allergic and nonallergic rhinitis. Simola, M., Malmberg, H. Department of Otorhinolaryngology, University Central Hospital, Helsinki, Finland. *Allergy* (1998) February, Vol. 53 (2), pp. 190–4.
Hyposmia is a fairly common complaint in patients with long-continuing allergic or nonallergic rhinitis. Other factors such as aging, smoking, or nasal surgery may affect olfaction, but these have been little studied in rhinitis-related hyposmia. The purpose of this study was to measure and compare olfactory thresholds in 105 rhinitis patients and 104 healthy controls and to analyze possible relationships between the sense of smell and rhinitis, age, sex, smoking, prick-test results, nasal resistance, and history of nasal or paranasal surgery. The olfactory threshold was assessed with a commercially available kit of squeeze-bottle pairs. The most important variables associated with the sense of smell were determined with stepwise multiple regression analysis, and intergroup differences were assessed with analysis of variance. The reference interval of olfactory thresholds by age was estimated with regression analysis. Nasal resistance was measured by active anterior rhinomanometry. Age and rhinitis were the only variables with significant effect on the olfactory threshold in the whole series. Both the proportion of hyposmic persons and the degree of the impairment of the sense of smell were significantly higher in the rhinitis group than in the control group. The nonallergic patients' sense of smell was poorer than that of seasonal or perennial allergic rhinitis patients. A history of operations for nasal polyposis was associated with hyposmia, but operations for chronic maxillary sinusitis were not. Neither smoking habits nor sex were related to olfactory thresholds. In conclusion, hyposmia in rhinitis patients is partly attributable to age-related changes, but our results indicate that the disease itself impairs the sense of smell. Author.

Paranasal sinus endoscopy and orbital fracture repair. Woog, J. J., Hartstein, M. E., Gliklich, R. Department of Ophthalmology, Massachusetts Eye and Ear Infirmary, and The New England Eye Center, Boston, USA. *Archives of Ophthalmology* (1998) May, Vol. 116 (5), pp. 688–91.
Although excellent results may be achieved in the management of many orbital floor injuries with standard transconjunctival or transcutaneous approaches, visualization of the posterior edge of the orbital floor or medial wall defect may be challenging at times. We describe our experience using endoscopic examination of the orbital floor through maxillary sinus approaches during the repair of selected orbital floor fractures. Owing to the posterosuperior angulation of the orbital floor, these approaches allow better visualization of the posterior edge of fractures involving the

posterior portion of the orbital floor than do the standard transconjunctival approaches, and they facilitate confirmation that all orbital soft tissues have been elevated from the fracture site. We have used these techniques successfully in nine patients with fractures involving either the posterior portion of the orbital floor or the medial wall or both. Author.

Revision of TNM classification for oropharyngeal carcinoma (editorial: comment). Fleming, I. D. *Cancer* (1998) May 1, Vol. 82 (9), p. 1611–2. Comment on: *Cancer* (1998) May 1, 82 (9), pp. 1613–20.

Clinical staging of oropharyngeal carcinoma: a critical evaluation of a new stage grouping proposal (see comments). Ambrosch, P., Kron, M., Freudenberg, L. S. Department of Otorhinolaryngology, Head and Neck Surgery, Georg-August University of Goettingen, Germany. *Cancer* (1998) May 1, Vol. 82 (9), pp. 1613–20. Comment in: *Cancer* (1998) May 1, 82 (9), pp. 1611–2.
BACKGROUND: An alternative to the International Union Against Cancer/American Joint Committee on Cancer (UICC/AJCC) stage grouping system was proposed for patients with oropharyngeal carcinoma by Hart *et al.* (1995) on behalf of the Dutch Head and Neck Oncology Cooperative Group. The system was created by regrouping the T, N, and M categories without redefining the categories themselves. METHODS: Data related to epidemiology, treatment, and survival from 224 previously untreated patients with oropharyngeal carcinoma were analyzed. Staging was performed according to the 1992 UICC/AJCC criteria and according to the proposed stage grouping system. Kaplan-Meier estimates of overall survival were compared for both staging systems; and in a Cox proportional hazards regression analysis, the influence of the variables age, gender, subsite and side of tumour location, histopathologic grade, form of treatment, and stage distribution (according to 1992 UICC criteria and that proposed by Hart *et al.*) on overall survival was determined. RESULTS: The proposed staging system showed a more balanced distribution of patients (16 per cent in Stage I, 37 per cent in Stage II, 14 per cent in Stage III, and 33 per cent in Stage IV compared with five per cent in Stage I, seven per cent in Stage II, 21 per cent in Stage III, and 67 per cent in Stage IV according to UICC/AJCC 1992 staging). Furthermore, the proposed staging system showed better prognostic discrimination for overall survival (five-year survival rates according to the staging system of Hart *et al.* were 59 per cent in Stage I, 31 per cent in Stage II, 28 per cent in Stage III, and 16 per cent in Stage IV, vs. 61 per cent in Stage I, 59 per cent in Stage II, 32 per cent in Stage III, and 24 per cent in Stage IV according to UICC/AJCC 1992 staging). CONCLUSIONS: The results are in accordance with the results published by the Dutch Head and Neck Oncology Cooperative Group. It is possible to improve the current staging system by regrouping the T, N, and M categories. (see editorial on pages 1611-2, this issue.) Author.

A randomized, controlled clinical trial to evaluate the effects of zinc sulfate on cancer patients with taste alterations caused by head and neck irradiation. Ripamonti, C., Zecca, E., Brunelli, C., Fulfaro, F., Villa, S., Balzarini, A., Bombardieri, E., De Conno, F. Pain Therapy and Palliative Care Division, National Cancer Institute, Milan, Italy. *Cancer* (1998), May 15, Vol. 82 (10), pp. 1938–45.

BACKGROUND: In uncontrolled clinical trials, the administration of oral zinc sulfate has been reported both to prevent and correct taste abnormalities in cancer patients receiving external radiotherapy (ERT) to the head and neck region. METHODS: Eighteen patients were randomized to receive either zinc sulfate tablets (a dose of 45 mg) or placebo tablets three times a day at the onset of subjective perception of taste alterations during the course of ERT and up to one month after ERT termination. Taste acuity was determined by measuring detection and recognition thresholds for four taste qualities. Intolerance of zinc sulfate or placebo administration was investigated, and the oral cavity was examined. All the evaluations were studied prior to, at weekly intervals during, and one month after ERT administration. RESULTS: Taste acuity for one or more taste qualities was already impaired before ERT. During ERT treatment, taste alterations were experienced at least once for a minimum of three of the eight measured thresholds by 100 per cent of the patients, and 33.3 per cent of the patients became aware of some alteration within the first week of treatment. The patients treated with placebo experienced a greater worsening of taste acuity during ERT treatment compared with those treated with zinc sulfate. One month after ERT was terminated, the patients receiving zinc sulfate had a quicker recovery of taste acuity than those receiving placebo. Statistically significant differences between the two groups emerged for urea detection and sodium chloride recognition thresholds during ERT treatment and for sodium chloride, saccharose, and hydrogen chloride recognition thresholds after the termination of ERT treatment. CONCLUSIONS: This pharmacologic therapy is effective and well tolerated; it could become a routine in clinical practice to improve the supportive care of patients with taste alterations resulting from head and neck cancer. Author.

Radiological malformations of the ear in Pendred syndrome. Phelps, P. D., Coffey, R. A., Trembath, R. C., Luxon, L. M., Grossman, A. B., Britton, K. E., Kendall-Taylor, P., Graham, J. M., Cadge, B. C., Stephens, S. G., Pembrey, M. E., Reardon, W. Royal National Throat Nose and Ear Hospital, London, UK. *Clinical Radiology* (1998) April, Vol. 53 (4), pp. 268–73.
Pendred syndrome comprises the association of severe congenital sensorineural deafness with thyroid pathology. Although it is the commonest form of syndromic hearing loss, the primary genetic defect remains unknown. The variable clinical presentation allied to the difficulty in securing the diagnosis have resulted in relatively poor documentation of the radiological features of this syndrome. We now present data on 40 patients, all complying with strict diagnostic criteria for the disorder, and describe our experience of the prevalence of specific malformations of the inner ear as well as comparing the relative merits of computed tomography (CT) and magnetic resonance imaging (MRI) in the investigation of this inherited condition. Deficiency of the interscalar septum in the distal coils of the cochlea (Mondini deformity) was found to be a common but probably not a constant feature of Pendred syndrome. However, enlargement of the endolymphatic sac and duct in association with a large vestibular aqueduct was present in all 20 patients examined by MRI. We conclude that thin section high resolution MRI on a T2 protocol in the axial and sagittal planes is the imaging investigation of choice. Author.