

Abstract Selection

Tryptase in nasal lavage fluid after local allergen challenge. Relationship to histamine levels and TAME-esterase activity. Juliusson, S., Holmberg, K., Baumgarten, C. R., Olsson, M., Enander, I., Pipkorn, U. ENT Department, Sahlgrenska Hospital, Goteborg, Sweden. *Allergy* (1991) Aug, Vol. 46 (6), pp. 459–65.

The activation of mast cells is generally considered to be an important trigger mechanism in the immediate allergic response. This study focussed on the determination of three markers of mast cell activation after an allergen challenge. Nasal allergen challenges were performed in 25 subjects with seasonal allergic rhinitis using three allergen doses increasing in 10-fold steps in a standardized nasal lavage model for the subsequent recovery of the markers of mast cell activation. The levels of histamine and tryptase in the nasal lavage fluid were determined using radioimmunoassays, while the TAME-esterase activity was determined using a radiochemical technique. The nasal symptoms obtained on challenge were assessed using a scoring technique. The allergen challenge resulted in significant increases in the levels of all three markers, tryptase, histamine and TAME-esterase. In the individual measurements after the challenges there was a highly significant correlation between the TAME-esterase levels and the tryptase levels ($r = 0.71$; P less than 0.001), while the generation of histamine and tryptase was not significantly correlated. When comparing the cumulative generation of the three markers, significant correlations were found between all three. Allergen challenges in six non-allergic controls using the same technique did not result in any increase in tryptase levels. The findings suggest that the determination of tryptase in nasal lavage fluid may be a valuable indicator of mast cell activation in the upper airways. Author.

The frontal sinus and mandibular growth prediction. Rossouw, P. E., Lombard, C. J., Harris, A. M. Department of Orthodontics, University of Stellenbosch, Tygerberg. *American Journal of Orthodontics and Dentofacial Orthopedics* (1991) Dec, Vol. 100 (6), pp. 542–6.

The skeletal growth patterns of 103 subjects with Class I and III malocclusions were cephalometrically analyzed as advocated by Ricketts *et al.* to assess abnormal mandibular growth. The surface area (mm^2) of the frontal sinus was assessed by a Summagraphics decoder linked to a microcomputer. The results indicate that there is a significant correlation between maxillary length, mandibular length, symphyseal width, condylar length, and frontal sinus size on a lateral cephalogram. The frontal sinus can possibly be used as an additional indicator when one is predicting mandibular growth. Author.

Experimental rhinovirus 16 infection potentiates histamine release after antigen bronchoprovocation in allergic subjects. Calhoun, W. J., Swenson, C. A., Dick, E. C., Schwartz, L. B., Lemanske, R. F. Jr., Busse, W. W. Department of Medicine, University of Wisconsin, Madison. *American Review of Respiratory Diseases* (1991) Dec, Vol. 144 (6), pp. 1267–73.

Viral respiratory infections exacerbate asthma in many patients. We hypothesized that one mechanism by which this effect occurs may include potentiated or altered mediator release by mast cells and/or basophils to favor the development of late-phase asthmatic reaction (LAR). Therefore, we studied eight subjects with allergic rhinitis before and during an experimentally induced rhinovirus 16 (RV16) infection. We determined levels of plasma histamine and tryptase, and we observed the associated patterns of airway obstruction that developed following inhaled antigen challenge. Bronchial responsiveness to histamine, methacholine, and antigen were all significantly increased during the RV16 illness. Further, the incidence of LAR was significantly higher (five of eight) during the infection than before (one of eight; $p = 0.014$). In addition, in those patients whose pattern of response following antigen challenge converted from an immediate response only before infection to a dual response (immediate + late phase) during infection, plasma histamine concentrations after challenge were significantly greater than in those

whose pattern of response did not change. We conclude that one mechanism by which RV16 infection increases the likelihood of LAR could include enhanced mediator release from pulmonary mast cells or for circulating or recruited basophils. Author.

Environmental contamination during tracheal suction. A comparison of disposable conventional catheters with a multiple-use closed system device. Cobley, M., Atkins, M., Jones, P. L. Department of Anaesthetics, University Hospital of Wales, Heath Park, Cardiff. *Anaesthesia* (1991) Nov, Vol. 46 (11), pp. 957–61.

The extent of airborne environmental bacterial contamination which occurs following tracheal suction has been investigated in patients undergoing intermittent positive pressure ventilation in the intensive therapy unit. Two methods of performing suction, one using a conventional open technique and one using a closed system (Stericath), have been compared. Significantly lower levels of environmental contamination were observed when the closed system was used. Author.

Treatment of the Negroid nose without nasal alar excision: a personal technique. Santana, P. S. Medical and Scientific Research Institute of Sao Bernardo do Campo, Brazil. *Annals of Plastic Surgery* (1991) Nov, Vol. 27 (5), pp. 498–507.

A new procedure is used for surgery of the Negroid nose. It is based on the elevation of the columella, rebuilding the nose tip and the nostril entrance, and bialar diameter reduction, leaving no external scars. The technique requires an almost all subperiosteal undermining of the soft tissues of the mid-one-third of the facial level. This procedure is performed through the Caldwell-Luc incision. Special stitches are placed on the bialar line and the columella, narrowing the nose base to the desired dimensions. No recurrency has been observed in all the patients who underwent surgery. Author.

Human papillomavirus type 6 detected by the polymerase chain reaction in invasive sinonasal papillary squamous cell carcinoma. Judd, R., Zaki, S. R., Coffield, L. M., Evatt, B. L. Department of Pathology, Emory University School of Medicine, Atlanta, Ga. *Archives of Pathology and Laboratory Medicine* (1991) Nov, Vol. 115 (11), pp. 1150–3.

Eight sinonasal carcinomas (one adenocarcinoma, two undifferentiated nasopharyngeal carcinomas, and five squamous cell carcinomas) were investigated for evidence of human papillomavirus (HPV) infection using in situ hybridization and the polymerase chain reaction for HPV types 6, 11, 16, 18 and 33. All eight cases were negative for HPV infection by in situ hybridization, while a single HPV-6-positive case was identified by the polymerase chain reaction. The HPV-positive case was an invasive papillary squamous cell carcinoma of the maxillary sinus. Although HPV-6 is usually associated with benign anogenital condylomata, it has been identified in malignant lesions of the upper respiratory tract. This may reflect exposure of the upper aerodigestive tract to additional carcinogens, such as smoke and alcohol, superimposed on the background proliferative stimulus of the HPV infection. Author.

Paranasal sinusitis in burn patients following nasotracheal intubation. Bowers, B. L., Purdue, G. F., Hunt, J. L. Department of Surgery, Parkland Memorial Hospital, Dallas, TX. *Archives of Surgery* (1991) Nov, Vol. 126 (11), pp. 1411–2.

Paranasal sinusitis is a complication of nasotracheal intubation. Of 99 nasally intubated adult patients who survived 48 hours after being burned, 22 who were intubated for more than seven days underwent a computed tomographic scan of all paranasal sinuses, with timing dictated by the patient's clinical condition. Eight patients had computed tomographic and clinical findings consistent with sinusitis. Treatment consisted of removal of all nasal tubes, oral and topical nasal decongestants, and, when appropriate, culture-specific antibiotics. A subgroup of patients with preexisting sinus disease made up 50 per cent of the patients with sinusitis; early conversion to an oral airway or a tracheostomy should be considered in such patients.

Only one patient required surgical drainage of the sinuses. The frequency and morbidity of sinusitis in nasotracheally intubated burn patients does not justify the risk of routine conversion to an oral airway. Author.

Survival of irradiated glutaraldehyde preserved bovine cartilage in nasal reconstruction: a retrospective study. Kangesu, L., Goodacre, T. E., Stanley, P. R. Department of Burns and Plastic Surgery, Queen Mary's University Hospital, Roehampton, London. *British Journal of Plastic Surgery* (1991) Oct, Vol. 44 (7), pp. 483–5.

Chondroplast, bovine irradiated glutaraldehyde preserved cartilage, has been available in the U.K. for facial contour surgery since 1986. Eighteen patients who had implants for nasal reconstruction during a three-year period were reviewed. The mean follow-up was 21 months. There was a high rate of graft loss with significant resorption in seven cases, and loss from infection in four. There was survival of graft in seven cases. A prospective study is recommended to determine the reliability of this graft material in reconstructive surgery. Author.

A retrospective comparison between different stage classifications for nasopharyngeal carcinoma. Teo, P., Leung, S. F., Yu, P., Lee, W. Y., Shiu, W. Department of Clinical Oncology, Chinese University of Hong Kong, Prince of Wales Hospital. *British Journal of Radiology* (1991) Oct, Vol. 64 (766), pp. 901–8.

From 1984 to 1987, 659 patients with untreated nasopharyngeal carcinoma (NPC) were investigated by computed tomography of the nasopharynx and skull base, and fiberoptic nasopharyngoscopy. Thirty-one patients presenting with distant metastasis were treated palliatively; 628 were treated with intent to cure. Prospective staging was performed for the Ho's classification but since all T- and N-stage data required for staging according to the Huang's, the Changsha and the UICC classifications were recorded and stored in a computer database, retrospective staging according to these classifications could be accurately performed. Ho's classification was concluded to be the best in view of highly significant differences between the overall stages in survival and between N-stages in distant metastasis. The number of prognostically distinct overall stages and N-stages was greatest for Ho's classification. Huang's T-stage classification was superior, however, because it emphasized the significant adverse effect on local tumour control of cranial nerve(s) palsy (Tn) and intracranial tumour extension (Tc). Changsha and UICC classifications were demonstrably less powerful in predicting NPC prognosis. Multiple sites of involvement within the nasopharynx by NPC had no adverse influence on local tumour control. The grouping together of both soft-tissue and skull-base lesions into Changsha's T₁ has been shown to be unjustified because of significant differences in local failure. Author.

Metastatic squamous carcinoma in the neck: an anatomical and physiological study using CT and SPECT 99Tcm (V) DMSA. Watkinson, J. C., Lazarus, C. R., Todd, C., Maisey, M. N., Clarke, S. E. Department of Radiological Sciences, Guy's Hospital, London, U.K. *British Journal Radiology* (1991) Oct, Vol. 64 (766), pp. 909–14.

Technetium-99m (99Tcm) (V) dimercaptosuccinic acid (DMSA) is a new tumour imaging agent that has been used to image squamous cell carcinoma (SCC) of the head and neck. This study has been undertaken to compare clinical examination with computed tomography (CT) (anatomical) and SPECT 99Tcm (V) DMSA (physiological) imaging in the evaluation of metastatic SCC of the neck. Twenty-five patients with head and neck cancer were studied. Computed tomography was as sensitive but more accurate than clinical examination in predicting the presence of cancer. SPECT 99Tcm (V) DMSA was inferior to both techniques in identifying metastatic disease. There is no role for SPECT 99Tcm (V) DMSA imaging in the management of patients with SCC metastatic to the neck. Combined imaging with CT offered no advantages over anatomical imaging with CT alone. There is no role for CT in the routine evaluation of the clinically NO neck and the role of CT of the neck in the management of patients with metastatic SCC is discussed. Author.

Unilaterality of obstruction after acute nasal allergen provocation. Relation of allergen dose, nasal reactivity and the nasal cycle. Brooks, C. D., Karl, K. J., Francom, S. F. Upjohn Research Clinics, Kalamazoo, MI 49007. *Clinical and Experimental Allergy* (1991) Sep, Vol. 21 (5), pp. 583–7.

We examined unilaterality of obstruction after acute bilateral nasal

allergen provocation in two groups of pollen-sensitive volunteers studied out of season. One group was challenged on one occasion with a threshold allergen dose and on another with placebo. We measured nasal airway resistance (NAR) unilaterally for 3.5 hr before the challenges and for 40 min after. Most subjects' noses had marked asymmetry of response. Over half showed marked obstruction on one side and none at all on the other side. The side which showed higher resistance and greater liability before challenge was typically more obstructed after. In a second group we compared responses to threshold and $\times 10$ threshold doses. Threshold challenge produced results similar to those seen with the first group. After the higher allergen dose, there was some obstruction in the less responsive side and the rate of rise was much slower. Obstructive response after acute threshold allergen challenge is typically one-sided. This pattern may be related to the stage of the nasal cycle in which the challenge was delivered. Higher allergen doses produce more obstruction in the less responsive side but the response is still asymmetrical. Author.

Improvement of symptoms of non-allergic chronic rhinitis by local treatment with capsaicin. Lacroix, J. S., Buvelot, J. M., Polla, B. S., Lundberg, J. M. Clinic of Otorhinolaryngology, University Cantonal Hospital, Geneva, Switzerland. *Clinical and Experimental Allergy* (1991) Sep, Vol. 21 (5), pp. 595–600.

Sixteen adult patients suffering from severe chronic non-allergic rhinitis with nasal vasoconstrictor abuse for more than a year, received, under local anaesthesia, an intranasal spray of capsaicin (3.3×10^{-3} mol), the pungent agent in hot pepper, once weekly for five weeks. The subjective intensity of their nasal obstruction, rhinorrhoea and sneezing frequency were evaluated throughout the study and the vascular effects of capsaicin on the nasal mucosa were recorded by anterior rhinomanometry and laser Doppler flowmetry. Calcitonin gene-related peptide (CGRP) is a vasodilator agent present in sensory nerves and may play a major role in the vascular component of neurogenic inflammation. Therefore, the nasal mucosa content of CGRP-like immunoreactivity (CGRP-LI) was determined by radioimmunoassay in biopsies obtained before and after the capsaicin treatment. Intra-nasal capsaicin application evoked a larger vascular response in patients with rhinitis and in controls (P less than 0.05). Both nasal vascular responses and subjective discomfort following capsaicin were markedly reduced after the fifth application (P less than 0.01). In parallel, a 50 per cent reduction of the CGRP-LI content in the nasal biopsies was observed. All symptoms were significantly improved throughout a six month follow-up period. No significant side-effects occurred and weaning from nasal vasoconstrictor agents was possible. Both the subjective symptom score and objective measurements of vascular reactivity suggest that repeated intra-nasal capsaicin application could be beneficial for patients with chronic rhinitis, possibly by reducing hyperreactive nasal reflexes. Author.

Changes in BAEP under hypoglycemia: temperature-related? Durrant, J. D., Gerich, J. E., Mitrakou, A., Jenssen, T., Hyre, R. J. Department of Otolaryngology, University of Pittsburgh Medical Center, PA 15213. *Electroencephalography and Clinical Neurophysiology* (1991) Nov–Dec, Vol. 80 (6), pp. 547–50.

Latencies of the brain-stem auditory evoked potentials were observed to increase the subjects whose plasma glucose levels were reduced. These changes appeared to be attributable to reduced body temperature, rather than direct effects of hypoglycemia on the auditory nerve or the brain stem. The results suggest the need for caution in interpreting evoked potential measurements under hypoglycemia. Author.

Surgical and cryosurgical salvage of oral and oropharyngeal cancer recurring after radical radiotherapy. Meyza, J. W., Towpik, E. Department of Surgical Oncology, Maria Skłodowska-Curie Memorial Cancer Centre and Institute of Oncology, Warsaw, Poland. *European Journal of Surgical Oncology* (1991) Dec, Vol. 17 (6), pp. 567–70.

The results of salvage surgery or cryosurgery performed in 62 cases of oral or oropharyngeal cancer, recurring or persisting after radical radiotherapy, were analysed retrospectively. Salvage surgery was performed in 33 cases. The relatively high frequency of post-operative complications observed in years 1973–1984, has declined since 1985, concomitant with the introduction of myocutaneous flaps for reconstruction. Twenty-nine patients who were disqualified from major surgery, were treated by cryosurgery. Using both methods, three year overall survival was obtained in 24.1 per cent of cases. Author.

Incidence of fungal infections in chronic maxillary sinusitis. Greval, R. S., Khurana, S., Aujla, K. S., Goyal, S. C. Department of ENT, Dayanand Medical College and Hospital, Ludhiana. *Indian Journal of Pathology and Microbiology* (1990) Oct, Vol. 33 (4), pp. 339–43.

A study conducted on 75 cases of chronic maxillary sinusitis presenting at the ENT Outpatients' Department of Dayanand Medical College, Ludhiana revealed the presence of fungi in eight cases. The return fluids of proof puncture and antral lavage of the sinuses were subjected to standard extraction procedures. Methods of isolation and identification of the causal fungi are described. The role of fungi, particularly aspergillus, as pathogen is discussed in the context of antibiotic and immuno-suppressive therapy and local predisposing factors. Author.

A comparison of anterior cricoid split with and without costal cartilage graft for acquired subglottic stenosis. Richardson, M. A., Inglis, A. F. Jr. Children's Hospital and Medical Center, University of Washington School of Medicine, Seattle 98105. *International Journal of Pediatric Otorhinolaryngology* (1991) Sep, Vol. 22 (2), pp. 187–93.

The use of the anterior cricoid split has allowed the extubation of multiple children who would otherwise require tracheostomy. Success, however, has been variable and difficult postoperative complications have occurred. Since 1981, 22 children at the Children's Hospital and Medical Center in Seattle, Washington have failed extubation because of subglottic disease as defined previously by Cotton and Seid. Two approaches have been used in managing the extubation of these children, one employing the anterior cricoid split and one employing the anterior cricoid split with immediate tracheoplasty using costal cartilage grafting. Immediate costal cartilage grafting resulted in fewer complications and a higher success rate in extubating patients with acquired subglottic stenosis. Author.

Bacteriological nasal flora in newborns indicating health and/or development of infection. Cvetnic, V., Kucisec-Tepes, N., Seper, I., Sips, D. Department of Otorhinolaryngology, Orzen Novosel Clinical Hospital, Zagreb, Croatia, Yugoslavia. *International Journal of Pediatric Otorhinolaryngology* (1991) Sep, Vol. 22 (2), pp. 151–60.

During delivery, a fetus otherwise sterile during the intrauterine life, comes in contact with bacterial flora of the mother's birth canal, and then also with the ward personnel's skin and respiratory system flora. Due to the absence of competitive bacteriological flora, the nasal cavity is gradually colonized by microorganisms, especially those with a capacity of adhesion to epithelial cells of respiratory nasal mucosa. Bacteriological flora of the newborn's nasal flora was observed on days 1 and 3 postpartum, in an attempt to determine whether a finding of pathogenic bacterial flora in newborn's nasal mucosa indicates a localized infection only or points to the possible development of generalized infection. Bacteriological nasal flora was monitored in infants born by spontaneous delivery and in those born by cesarean section. In mothers of infants born by spontaneous delivery, bacteriological flora from the cervix uteri was investigated. Results of the study performed by usual methods revealed *Escherichia coli* and *Staphylococcus aureus* to prevail in the pathogenic flora. Gram-negative microorganisms were found to be good indicators of local infection of newborn's nasal mucosa, regardless of the absence of clinical symptoms. Author.

Immunohistologic analysis of the cholesteatoma matrix in children. Mayot, D., Bene, M. C., Faure, G. C., Wayoff, M., Perrin, C. Cliniques ORL A, CHRU de Nancy, France. *International Journal of Pediatric Otorhinolaryngology* (1991) Sep, Vol. 22 (2), pp. 115–24.

The immunohistological characteristics of retraction pockets, cholesteatoma matrix and granulomatous tissue were compared in 14 samples from pediatric cholesteatoma. The junction between epidermis and the middle ear mucosa appeared as the most inflammatory area, displaying the characteristics of delayed type hypersensitivity. CD1 + Langerhans cells were observed in all epidermic areas, but expressed class II molecules only in the vicinity of polymorphonuclear infiltrates. Numerous mast cells and IgA producing cells were also observed, suggesting that defenses from the mucosal immune system are summoned and contribute to the pathogenesis of cholesteatoma. Author.

The two-headed stethoscope: its use for ruling out airway foreign bodies. Parsons, D. S., Kearns, D. Department of Otolaryngology—Head and Neck Surgery, Wilford Hall United States Air Force Medical Center, Lackland Air Force Base, TX 78236-5300.

International Journal of Pediatric Otorhinolaryngology (1991) Sep, Vol. 22 (2), pp. 181–5.

Foreign body aspiration is a common concern for physicians and surgeons who care for children. Evaluating infants and toddlers to rule out this possible diagnosis is often fraught with difficulties. Specifically, the standard stethoscope is of limited use unless unilateral asymmetry of breath sounds can be appreciated. Inspiratory and expiratory chest X-rays in children often appear to show a very similar diaphragmatic excursion and, unless the object is radiodense, the determination of foreign body aspiration is frequently not possible. Other procedures, such as flexible or rigid endoscopy, are more invasive and are reserved for children with positive findings or a less acute but more perplexing scenario. We present the use of the two-headed stethoscope as an option for evaluation of children to rule out foreign body aspiration. Our experience with this instrument over the past 10 years has consistently allowed us to non-invasively differentiate the presence or absence of objects in the airway. Author.

Retrospective study of the prevalence of bilateral sensorineural deafness in childhood. Pabla, H. S., McCormick, B., Gibbin, K. P. Children Hearing Assessment Centre, General Hospital, Nottingham, U.K. *International Journal of Pediatric Otorhinolaryngology* (1991) Sep, Vol. 22 (2), pp. 161–5.

This retrospective study was undertaken to estimate the causes of severe sensorineural deafness (greater than 40 dB HL) in children. The children were identified from case notes of all referrals made to the Children's Hearing Assessment Centre during a five-year period (from 1 January 1981 to 31 December 1985). Results were tabulated and conclusions drawn following a literature search. It was deduced that following better antenatal screening, a more active immunization program and improvements in resuscitation of small preterm infants, there was a shift of cases from prenatal to perinatal causes. The proportion of cases of severe sensorineural deafness was much the same as in previous studies. Author.

Dose, time, and fraction size issues for late effects in head and neck cancers. Taylor, J. M., Mendenhall, W. M., Lavey, R. S. Department of Radiation Oncology, UCLA 90024. *International Journal of Radiation, Oncology, Biology and Physics* (1992), Vol. 22 (1), pp. 3–11.

This paper contains a statistical analysis of the dose-time factors influencing late complications in 784 patients with squamous cell carcinomas of the pharynx or larynx treated with external beam irradiation only at the University of Florida. The patients include 560 who received continuous course once-a-day therapy, 116 who received twice-a-day treatment, and 108 who received a once-a-day split course regimen. Both 2+ and 3+ complications were considered. Fifty-six patients developed either of these complications. The factors included in the analysis were site and size of the primary, total dose, fraction size, and treatment time. The linear-quadratic model was used to incorporate fraction size into the analysis. Proportional hazards analysis, which models the time to occurrence of the late complication, was used to quantify the joint influence of the above patient and fractionation variables on the incidence of late effects. The occurrence of the late effects was heterogeneous, with only a weak relationship to the patient and fractionation variables. The influence of the size of the primary was significant, with larger primaries associated with higher complication rates independent of fractionation variables. For oropharynx primary sites there was no significant effect of the fractionation variables. For larynx and hypopharynx, excluding T₁–T₂ true vocal cord, there was a significant effect of total dose and fraction size. The alpha/beta ratio was estimated to be 7.8 Gy (95 per cent confidence interval, 3.0, infinity). There was no significant effect of overall treatment time. The estimated 2+ complication rate at one year from 68 Gy given in 2 Gy fractions in 50 days is 0.1 per cent for T₁₋₂ vocal cord, 4.1 per cent for T₁₋₂ supraglottic larynx, 3.8 per cent for T₃ supraglottic larynx and vocal cord, 14.9 per cent for T₄ supraglottic larynx, 6.7 per cent for T₁₋₂ tonsil and soft palate, 7.6 per cent for T₃₋₄ tonsil and soft palate, 7.0 per cent for T₁₋₂ pyriform sinus and pharyngeal wall and 13 per cent for T₃₋₄ pyriform sinus and pharyngeal wall. Author.

Evaluation of a principal-components tactile aid for the hearing-impaired. Weisenberger, J. M., Craig, J. C., Abbott, G. D. Central Institute for the Deaf, St Louis, Missouri 63110. *Journal of the Acoustical Society of America* (1991) Oct, Vol. 90 (4 (Pt 1)), pp. 1944–57.

Principal component analysis, a statistical data reduction technique which can be used to eliminate redundant information, has shown promising results as a speech coding strategy in auditory perceptual studies. The present study describes the development, modification, and evaluation of a principal components-based tactile aid for speech perception by the hearing-impaired. In this device, the first two principal components of an input speech signal were displayed on two-dimensional arrays of vibrators contacting either the fingertip or the forearm. Initial testing of the device with closed-set recorded speech tokens showed fair recognition performance, reaching 57 per cent for three consonants and 56 per cent for four vowels. Modifications to the processor algorithm designed to improve vowel recognizability resulted in higher levels of performance (66 per cent for eight vowels). A real-time prototype was constructed implementing the revised algorithm. Live-voice testing was conducted with six normal-hearing subjects, three of whom had previous training with the Queen's University vocoder, a multichannel tactile vocoder that has shown promising results. Performance of these 'trained' subjects for both single-item and connected speech tasks was excellent, equalling levels obtained with the Queen's vocoder. These results suggest that a principal components design may be a promising alternative to a vocoder strategy for a tactile aid. Results for the 'naive' subjects did not reach the levels attained by the trained subjects, a finding partially attributed to the short training period available to the naive subjects. The higher level of performance for the trained subjects, together with the similarity of performance for the principal components aid and the Queen's vocoder for these subjects, suggests that they were able to transfer previous learning with the Queen's vocoder to the principal components device. Author.

Aging and consonant errors in reverberation and noise. Helfer, K. S., Huntley, R. A. University of Massachusetts, Department of Communication Disorders, Amherst 01003. *Journal of the Acoustical Society of America* (1991) Oct, Vol. 90 (4 (Pt 1)), pp. 1786-96. Identification accuracy and error patterns on the City University of New York (CUNY) Nonsense Syllable Test were examined for three groups of subjects (young normal-hearing, older hearing-impaired, and older with minimal hearing loss) listening binaurally in four conditions (quiet, noise, reverberation, and reverberation plus noise). Percent-correct performance was analyzed for stimuli aggregated by place and manner categories, and error patterns were examined via analysis of variance and correlational procedures. Results suggested that some of the difficulty experienced by the older subjects was related to amount of hearing loss, but a portion of the data could not be explained by elevated auditory thresholds. Confusion patterns also varied across listening conditions, especially for the nasal and semivowel stimuli. Author.

Clinical evaluation of the efficacy and safety of noberastine, a new H1 antagonist, in seasonal allergic rhinitis: a placebo-controlled, dose-response study. Knight, A., Drouin, M. A., Yang, W. H., Alexander, M., Del Carpio, J., Arnott, W. S. Department of Medicine, Sunnybrook Health Sciences Center, Toronto, Ontario, Canada. *Journal of Allergy and Clinical Immunology* (1991) Dec, Vol. 88 (6), pp. 926-34.

Noberastine (NOB), a new histamine H1 antagonist, has potent and specific peripheral antihistaminic activity. To evaluate the efficacy and safety of NOB in ragweed seasonal allergic rhinitis, 250 eligible patients were randomized to one of four parallel, double-blind treatment groups: NOB, 10, 20, and 30 mg, or placebo, each administered once daily for three weeks. Rescue medication was prohibited. Efficacy parameters included global response rate (percentage of responders), physician visit, patient-diary symptom scores, and onset of action. Efficacy analyses used $\alpha = 0.0167$ (adjusted for multiple comparisons). Efficacy parameters demonstrated universal superiority of NOB therapy over placebo therapy with statistical significance achieved frequently; no statistically or clinically significant separation was demonstrated among NOB-treated groups. Global-response rates for all active-treatment groups (range, 62.7 per cent to 71.1 per cent) were statistically significantly greater than rates for the placebo-treated group (39.6 per cent). Median time to first relief of symptoms was within two to four hours for NOB-treated groups versus 72 hours for the placebo-treated group. No significant abnormalities in safety parameters were ascribed of NOB-treated groups were comparable in incidence and severity to placebo treatment. NOB treatment did not appear to cause weight gain or sedation. Once-daily NOB, 10, 20 and 30 mg, is equally and highly effective and safe in the symptomatic management of seasonal allergic rhinitis compared to placebo. Author.

Intraoperative nasal ala stabilization using the Foley catheter. Alcalay, J. Goldberg, L. H. Department of Dermatology, Baylor College of Medicine, Houston, Texas 77030. *Journal of Dermatologic Surgery and Oncology* (1991) Dec, Vol. 17 (12), pp. 957-8. The authors describe a technique of intraoperative nasal ala stabilization to aid excision of skin lesions on the nasal ala and the surrounding skin. The fixation is achieved by inserting a Foley catheter into the nasal antrum and inflating the balloon. The inflated balloon produces pressure against the surrounding walls, allows convenient excision of skin lesions with good hemostasis, and is comfortable for the patient. Author.

Short-course treatment of sinusitis and other upper respiratory tract infections with azithromycin: a comparison with erythromycin and amoxicillin. European Azithromycin Study Group. Felstead, S. J., Daniel, R. Department of Clinical Research, Pfizer Central Research, Sandwich, UK. *Journal of International Medical Research* (1991) Sep-Oct, Vol. 19 (5), pp. 363-72.

In two randomized, multicentre studies patients with upper respiratory tract infections treated with 1.5 g azithromycin in five or six doses over five days were compared with patients treated with 10 g erythromycin in 40 doses over 10 days or 15 g amoxicillin in 30 doses over 10 days. The majority of azithromycin- (65 per cent) and erythromycin- (67 per cent) treated patients in the azithromycin/erythromycin study and all patients in the azithromycin/amoxicillin study had sinusitis. Clinical cure was recorded in 83 per cent of azithromycin- and 79 per cent of erythromycin-treated patients, and in 81 per cent and 87 per cent, respectively, of azithromycin- and amoxicillin-treated patients. There was no significant difference in bacteriological eradication between the treatments. Adverse events, predominantly mild or moderate gastrointestinal complaints, occurred in 17 per cent and 15 per cent, respectively, of azithromycin- and erythromycin-treated patients, and in 5 per cent and 11 per cent, respectively, of azithromycin- and amoxicillin-treated patients, but there were no serious laboratory safety abnormalities. Azithromycin appeared to be an effective, simplified treatment for upper respiratory tract infections and may improve patient compliance compared with standard therapies. Author.

Velocardiofacial (Shprintzen) syndrome: an important syndrome for the dysmorphologist to recognize. Lipson, A. H., Yuille, D., Angel, M., Thompson, P. G., Vandervoord, J. G., Beckenham, E. J. Cleft Palate Clinic, Children's Hospital, Sydney, NSW, Australia. *Journal of Medical Genetics* (1991) Sep, Vol. 28 (9), pp. 596-604.

We report the dysmorphological, genetic, and speech therapy aspects of 38 cases of velocardiofacial syndrome presenting to a craniofacial clinic and a specialized children's hospital, to indicate a relatively low incidence of clefting, good response to pharyngoplasty, considerable variability of the syndrome, and two further familial cases. We emphasize the low index of suspicion by paediatricians and paediatric subspecialists which resulted in delayed diagnosis and delayed treatment for the hypernasal speech and velopharyngeal insufficiency for periods of four months to seven years. Author.

Damaged ligaments at the craniocervical junction presenting as an extradural tumour: a differential diagnosis in the elderly. Crockard, H. A., Sett, P., Geddes, J. F., Stevens, J. M., Kendall, B. E., Pringle, J. A. National Hospital for Neurology and Neurosurgery, Maida Vale, London, UK. *Journal of Neurology, Neurosurgery and Psychiatry* (1991) Sep, Vol. 54 (9), pp. 817-21.

An extradural mass at the craniocervical junction causing progressive neurological disability in five elderly patients is described. The lesion, which might be confused with a meningioma or other tumour, is composed of amorphous degenerate fibrocartilaginous material and could be due to degeneration of the ligaments responsible for atlanto-axial stability. Recognition of the condition early is important as the patient's clinical condition will deteriorate without decompression. Anterior transoral removal is relatively simple, unlike surgery for tumours in the area, and will not destabilize the craniocervical junction. It is likely that a proportion of these lesions are undetected, misdiagnosed or untreated to the detriment of the patient. Author.

Radiological evidence of sinus infection inpatients with multiple sclerosis. Martyn, C. N., Colquhoun, I. MRC Environmental Epidemiology Unit, Southampton General Hospital. *Journal of Neurology, Neurosurgery and Psychiatry* (1991) Oct, Vol. 54 (10), pp. 925-6.

The prevalence of radiological criteria of chronic sinus infection was compared in 42 cases of clinically definite or laboratory supported definite multiple sclerosis and 84 controls. No increase in relative risk of multiple sclerosis associated with the presence of chronic sinus infection was observed (odds ratio 1.2, 95 per cent CI 0.5 to 3.1). The maxillary sinus was infected more often than the other paranasal sinuses but there was no difference in the distribution of infection within the sinuses between cases and controls. These results do not confirm an earlier report of an association between chronic sinus infection and multiple sclerosis. Author.

The closed reduction of nasal fractures: an evaluation of two techniques. Haug, R. H., Prather, J. L. Division of Oral and Maxillofacial Surgery, MetroHealth Medical Center, Cleveland, OH 44109. *Journal of Oral and Maxillofacial Surgery* (1991) Dec, Vol. 49 (12) pp. 1288–92.

Two techniques of closed reduction and fixation of nasal fractures are reported and the results compared. Both patients' and surgeon's postoperative evaluations of these techniques were favorable. Author.

Odontogenic keratocysts: a clinical and histologic comparison of the parakeratin and orthokeratin variants. Crowley, T. E., Kaugars, G. E., Gunsolley, J. C. Medical College of Virginia, Richmond. *Journal Oral and Maxillofacial Surgery* (1992) Jan, Vol. 50 (1), pp. 22–6.

Four hundred and forty-nine cases of odontogenic keratocyst (OKC) were separated into three histologic categories: parakeratinized, orthokeratinized, or a combination of the two types. Demographic and clinical data, such as anatomic location and recurrence, were obtained from the biopsy forms. Results showed that 86.2 per cent of the 449 cases were parakeratinized, 12.2 per cent were orthokeratinized, and 1.6 per cent had features of both orthokeratin and parakeratin. There were no statistically significant differences between orthokeratinized and parakeratinized OKCs when age, race, sex, presenting symptoms, and the clinical impression were compared. The orthokeratinized OKC was more often associated with an impacted tooth (75.7 per cent), as compared with 47.8 per cent for the parakeratinized OKC ($P = .001$). Parakeratinized OKCs recurred in at least 42.6 per cent of the cases, compared with only 2.2 per cent for orthokeratinized OKCs. This study emphasizes the importance of distinguishing between the parakeratin and orthokeratin variants of OKC. In addition, data are presented that show the need for longer follow-up than previously documented. Author.

Antimicrobial therapy for otitis media with effusion ('secretory' otitis media) (see comments). Canteikin, E. I., McGuire, T. W., Griffith, T. L. Department of Otolaryngology, University of Pittsburgh, PA. *JAMA* (1991) Dec 18, Vol. 266 (23), pp. 3309–17. Comment in *JAMA* (1991) Dec 18; 266 (23), pp. 3333–7.

OBJECTIVE: To determine the effectiveness of antimicrobial treatment for otitis media with effusion ('secretory' otitis media) in children. **DATA SOURCE:** We report the reexamination of a previously published study by Mandel *et al.* that evaluated the efficacy of a two-week course of antimicrobials (amoxicillin trihydrate) with and without a four-week course of an oral decongestant-antihistamine combination in a double-blind, placebo-controlled, randomized trial involving 518 infants and children with otitis media with effusion. **DATA SYNTHESIS:** At four weeks, amoxicillin efficacy as determined by a tympanometric criterion ($p = 0.121$) or by a measure of improvement in hearing ($p = 0.311$) was insignificant. Only by otoscopic judgment, which is shown to contain a systematic bias as used in this clinical trial, could an argument be made for a marginal efficacy of amoxicillin at the four-week end point. Logistic regression analyses of the combined effects of treatment and prognostic factors showed no significant differences between placebo- and antibiotic-treated groups for unilateral effusions and for bilateral effusions. When subjects with unilateral and bilateral effusions were combined, the estimated efficacy of antibiotic treatment was 12.3 per cent by otoscopy ($p = 0.014$) and 4.8 per cent by tympanometry ($p = 0.171$). We also demonstrate the sensitivity of outcome to diagnostic measures used and provide statistical evidence questioning the validity of otoscopic observations in this study. Six weeks after the termination of amoxicillin therapy, the recurrence of effusion was two to six times higher in the amoxicillin-treated children than in those treated with placebo ($p = 0.001$), and resolution of effusion was not significantly different among antibiotic and placebo groups (13.6 per cent and 11.3 per cent, respectively; $p = 0.477$). **CONCLUSIONS:** Amoxicillin with and without decongestant-antihis-

tamine combination is not effective for the treatment of persistent asymptomatic middle-ear effusions in infants and children. Author.

Hearing loss in chronic renal failure-hearing threshold changes following haemodialysis. Gatland, D., Tucker, B., Chalstrey, S., Keene, M., Baker, L. ENT Department, St Bartholomew's Hospital, London. *Journal of the Royal Society of Medicine* (1991) Oct, Vol. 84 (10), pp. 587–9.

The prevalence of sensorineural hearing loss, measured by pure tone audiometry, was determined in 66 patients with chronic renal failure and threshold changes following haemodialysis were measured in 31 patients. The incidence of hearing loss was 41 per cent in the low, 15 per cent in the middle and 53 per cent in the high frequency ranges respectively. No correlations with weight changes, haematocrit, metabolic bone disease or ototoxic drug history were found. Of 62 ears studied, 38 per cent had a decrease in low frequency threshold after dialysis and 9 per cent had an increase. Threshold in 22/31 ears with pre-existing low frequency loss altered after dialysis with little change in other frequencies and no correlation with weight changes. In conclusion, we find a high incidence of low and high frequency hearing losses in chronic renal failure patients. Fluctuation in low frequencies with dialysis is common. Possible mechanisms include treatment induced changes in fluid and electrolyte composition of endolymph. Author.

Acoustic neuroma. Scrivener, B. P., Segelov, J. N. Royal Prince Alfred Hospital, Camperdown, NSW. *Medical Journal of Australia* (1991), Dec 2–16, Vol. 155 (11–12), pp. 752–4.

OBJECTIVES: To present the clinical features, the diagnostic methods, and the techniques and results of surgical removal of acoustic neuromas, and to illustrate the lowered mortality and morbidity derived from improved imaging and the improved surgical results from a teamwork approach. **DESIGN, SETTING AND PATIENTS:** We review our consecutive series of 106 patients undergoing 119 operations for acoustic neuroma at Royal Prince Alfred Hospital in Sydney between 1977 and 1988. **RESULTS:** Forty-two operations were standard posterior fossa craniectomies. The mortality was 9.5 per cent, preservation of facial nerve function was achieved in 48 per cent of patients, and complete removal of tumour in 66 per cent (42 per cent of patients had a tumour larger than 3.5 cm). A translabyrinthine approach was used in 27 patients, with a mortality of 14 per cent and no improvement in preservation of facial nerve function. The middle cranial fossa approach was used in six patients without mortality but with no better result in preservation of nerve function. The retrosigmoid approach was used in 44 patients with no mortality and preservation of facial nerve function in 86 per cent of patients. **CONCLUSIONS:** Improved imaging and earlier diagnosis have led to improved surgical results, both in terms of reduced mortality and morbidity and in the preservation of function, particularly of the facial nerve, and at times also of hearing (mostly in patients with small tumours). The surgical results have been substantially improved by the formation of a cohesive and effective neuro-otology team to perform this intricate and protracted surgery. Author.

Diagnosis of nasopharyngeal carcinoma by DNA amplification of tissue obtained by fine-needle aspiration (see comments). Feinmesser, R., Miyazaki, I., Cheung, R., Freeman, J. L., Noyek, A. M., Dosch, H. M. Division of Immunology and Cancer, Hospital for Sick Children, Toronto, ON, Canada. *New England Journal of Medicine* (1992) Jan 2, Vol. 326 (1), pp. 17–21.

Comment in: *New England Journal of Medicine* (1992) Jan 2, 326 (1), 58–9.

BACKGROUND: In nasopharyngeal carcinoma the primary lesion is often difficult to find. Metastatic lesions occur frequently but are difficult to distinguish from other head and neck tumors. The viral genome of the Epstein-Barr virus (EBV) can be identified in the cells of this carcinoma. **METHODS:** We used the polymerase chain reaction (PCR) to test for the presence of EBV genomes in 15 samples of metastatic squamous cell carcinoma of the neck obtained by fine-needle aspiration and in 26 samples obtained by biopsy of lymph nodes. For controls we used disease-free lymph nodes from 10 patients with various head and neck tumors, tonsillar tissue from 46 subjects, blood from 59 EBV-seropositive blood donors, and mononuclear cells from eight patients with fatal lymphoproliferative lesions. **RESULTS:** Of the 41 malignant lesions examined, only the nine nasopharyngeal carcinomas (one primary lesions and eight metastases) contained EBV genomes. None of the 20 nodes with other types of cancer, the 10 disease-free nodes, or any of the 105

normal control samples contained detectable EBV. In two patients with suspected metastases from occult primary tumors, the presence of EBV was predictive of nasopharyngeal carcinoma; in both cases overt nasopharyngeal carcinoma developed within one year. **CONCLUSIONS:** In patients with suspected nasopharyngeal carcinoma, fine-needle aspiration can provide tissue for diagnosis by DNA amplification of EBV genomes. The presence of EBV in metastases from an occult primary tumor is predictive of the development of overt nasopharyngeal carcinoma. Author.

Recurrent acoustic tumor after a suboccipital removal. Thedinger, B. S., Whittaker, C. K., Luetje, C. M. Department of Otolaryngology, University of Kansas Medical Center, Kansas City. *Neurosurgery* (1991) Nov, Vol. 29 (5), pp. 681–7.

Surgery for acoustic tumors has several priorities. First and foremost is the preservation of life with the total removal of the tumor; second is the preservation of the facial nerve; and last, when applicable, is the preservation of hearing. During the suboccipital (retrosgmoid) removal of a tumor, the surgeon unknowingly may leave tumor remnants leading to regrowth. We present five cases of recurrent acoustic tumors after a suboccipital removal. Inadequate drilling exposure of the internal auditory canal was the probable direct cause for tumor recurrence. A translabyrinthine removal is the best approach for total exposure of the entire internal auditory canal. The consequences of small tumor remnants will be discussed as well as their clinical relevance. Current radiological imaging and surgical techniques that avoid residual tumor will be presented. Author.

Esophageal perforation during surgery on the cervical spine. van Berge Henegouwen, D. P., Roukema, J. A., de Nie, J. C., van der Werken, C. Department of Surgery, St Elizabeth Hospital, Tilburg, The Netherlands. *Neurosurgery* (1991) Nov, Vol. 29 (5), pp. 766–8. Esophageal perforation during surgery for cervical disc herniation is a rare complication. Differences in the time of diagnosis of this complication in three patients—no delay and delays of six hours and four days, respectively—resulted in different symptoms and outcomes. Early detection of the perforation allows prompt treatment. In the early stage, primary suture and, if necessary, interposition of vital tissue are sufficient to complete healing. In later stages, only drainage procedures, sometimes with a diversion of the salivary leakage, are indicated. In the reported patients, the outcome was favorable. On the other hand as an ongoing infection may cause mediastinitis, awareness of this complication and urgent surgical treatment may be lifesaving. Author.

Root agenesis in developing canines as a complication of intranasal antrostomy. Ball, I. A., Manton, S. L. University of Bristol Dental School. *Oral Surgery, Oral Medicine, Oral Pathology* (1991) Nov, Vol. 72 (5), pp. 509–13.

A case is reported in which the roots of both maxillary canines failed to develop, a defect that could be traced to antral surgery when the patient was eight years of age. The differential diagnosis of such a finding is proffered. The maxillary antrum is described, and aspects of the surgical procedure, the nasal antrostomy, used in this patient are discussed. A brief outline of current thought on the mechanisms of eruption of teeth is appropriate, and treatment of the symptomatic tooth is mentioned. Author.

Are there psychological predictors of treatment outcome in temporomandibular joint pain and dysfunction? Schnurr, R. F., Rollman, G. B., Brooke, R. I. Department of Oral Medicine, Faculty of Dentistry, University of Western Ontario, London, Canada. *Oral Surgery, Oral Medicine, Oral Pathology* (1991) Nov, Vol. 72 (5), pp. 550–8.

This study explores the relationship between diverse psychological factors and treatment outcome in temporomandibular joint pain and dysfunction (TMJPD). During assessment, 178 patients with TMJPD were given a pressure pain threshold and tolerance task and completed the Basic Personality Inventory, the Illness Behavior Questionnaire, the Multidimensional Health Locus of Control, the Perceived Stress Scale, and the Ways of Coping Checklist. Subjects

also answered questions pertaining to TMJPD symptomatology, including chronicity and severity. After conservative treatment with simple jaw exercises and ultrasound, patients were contacted again at five months to complete a follow-up questionnaire package similar to the initial questionnaire battery. Percent reduction in average pain intensity and perceived TMJPD severity were used as outcome criteria. The data were analyzed with discriminant function analyses. One hundred patients responded to the follow-up questionnaire. Patients who reported more than a 50 per cent reduction in average pain intensity tended to be less inclined to accept responsibility for their problems and were slightly better able to distance themselves from their problems than the less improved groups. Those who reported more than a 50 per cent reduction in TMJPD severity indicated that the condition was not associated with an identifiable onset event and that the condition had become moderately worse between onset and first seeking help. Author.

Early stage glottic cancer: importance of dose fractionation in radiation therapy. Kim, R. Y., Marks, M. E., Salter, M. M. Department of Radiation Oncology, University of Alabama Medical Center, Birmingham 35233. *Radiology* (1992) Jan, Vol. 182 (1), pp. 273–5.

The treatment results in 85 patients with $T_1N_0M_0$ squamous cell carcinoma of the glottic larynx who were treated with primary radiation therapy were reviewed to analyze for local control. After a minimum follow-up period of two years, 13 patients had local recurrence of disease, which yielded a local control rate of 84.7 per cent. Local control was then reassessed as a function of substages (T_{1a} and T_{1b}) and dose fractionation. No difference in local control was seen in T_{1a} and T_{1b} neoplasms. However, after undergoing standard once-a-day fractionation, patients treated with fractions of 200 cGy had a local control rate of 96 per cent, while those receiving 180 cGy had a local control rate of 79 per cent ($p = 0.05$). Mean total dose for each patient group was comparable, and the median number of days of treatment interruption was the same for both groups. These data corroborate the recent findings of other authors regarding the importance of fraction size in facilitating local control of early-stage glottic cancer. Author.

Immunotherapy with an oral bacterial extract (OM-85 BV) for upper respiratory infections. Paupe, J. Hôpital des Enfants Malades, Paris, France. *Respiration* (1991), Vol. 58 (3–4), pp. 150–4. The efficacy of Broncho-Vaxom/Imocur (OM-85 BV), an orally administered lyophilized bacterial extract, for recurrent respiratory and ear, nose and throat (ENT) infections was evaluated in 116 children aged six months to 19 years by comparing its activity in 61 children with that of a placebo in 55 children. The study was randomized, double-blind, and comprised a 90-day treatment period followed by a 90-day follow-up period without test drugs. Over the 180 days, 39.5 per cent of patients taking OM-85 BV remained free from infection compared with 16.5 per cent on placebo (P less than 0.01). Forty-four per cent on OM-85 BV did not need antibiotics compared with 23.5 per cent on placebo (P less than 0.05). These differences were even greater in the subgroup of children aged six years or less (34 vs. 3.5 per cent for the absence of infections, P less than 0.01 and 37 vs. Ten per cent for the need of antibiotics, P less than 0.05). Tolerance to OM-85 BV was excellent, and laboratory investigations showed no abnormalities attributable to this product. This work confirms that the immunomodulator OM-85 BV is an effective immunotherapy for recurrent respiratory and ENT infections in children. Author.

Metastatic laryngeal carcinoma mimicking pleural mesothelioma. Huncharek, M., Muscat, J. Boston University School of Medicine, Mass. *Respiration* (1991), Vol. 58 (3–4), pp. 204–6.

We describe an unusual case of metastatic poorly differentiated laryngeal carcinoma to the pleura resembling pleural mesothelioma in a patient with a positive history of exposure to asbestos. This case not only describes an unusual presentation of metastatic laryngeal carcinoma, but also highlights the need for special pathological techniques to distinguish nonmesothelial tumors from primary pleural mesotheliomas. Author.