

## Abstract Selection

**The increased number of epithelial mast cells in nasal polyps and adjacent turbinates is not allergy-dependent.** Ruhno, J., Howie, K., Anderson, M., Andersson, B., Vanzieleghem, M., Hitch, D., Lapp, P., Denburg, J., Dolovich, J. Department of Pediatrics, Faculty of Health Sciences, McMaster University, Hamilton, Ontario, Canada. *Allergy* (1990) July, Vol. 45(5), p. 370–4.

Respiratory epithelial mast cells are an expression of airway inflammatory processes. Nasal epithelial mast cells are known to be increased in allergic rhinitis and have now been examined in patients with nasal polyps. Metachromatic cell counts (mean  $\pm$  standard error) expressed as the sum of large mast cells, atypical mast cells and basophils in epithelial scrapings of the inferior turbinates, assessed after Carnoy's fixation and toluidine blue staining (pH 0.5), were  $37.5 \pm 29$  in non-allergic normal control subjects ( $n = 11$ ),  $435 \pm 130$  in polyp patients who were allergic ( $n = 18$ ), and  $699 \pm 267$  in polyp patients who were not allergic ( $n = 8$ ). Metachromatic cell counts in epithelial scrapings obtained in vivo from nasal polyps of allergic patients ( $n = 8$ ) were  $1769 \pm 962$ , and  $2308 \pm 1544$  from polyps of non-allergic patients ( $n = 5$ ); metachromatic counts were  $2089 \pm 633$  in epithelial scrapings from excised polyps of allergic patients ( $n = 14$ ) and  $2214 \pm 640$  from polyps of non-allergic patients ( $n = 13$ ). It is concluded that the number of metachromatic cells in the epithelium of nasal polyps and the adjacent nasal mucosa is elevated compared with normal nasal epithelium and the increased number does not depend upon allergy. Author.

**Effects of one-year hyposensitization in allergic rhinitis. Comparison of two house dust mite extracts.** Pecoud, A., Nicod, L., Badan, M., Agrell, B., Dreborg, S., Kolly, M. Division of Clinical Immunology and Allergy, Lausanne, Switzerland. *Allergy* (1990) July, Vol. 45 (5), p. 386–92.

In an open study, 21 patients suffering from chronic non-seasonal rhinitis and allergic to house mites (HDM) have been treated for one year with either a new extract (Pharmalgen;  $n = 10$ ) or an allergoid, pyridine denatured, extract (Alavac;  $n = 11$ ), both precipitated with A10H3 (depot). The following investigations were performed before and after therapy: clinical scoring (for four weeks), quantified skin prick tests (SPT) and nasal provocation tests (NPT) with HDM, and determination in serum of HDM-specific IgE and IgG. Both groups were compared with six patients who remained untreated and underwent the same investigations. Hyposensitization with either extract induced an improvement in clinical scores (P less than 0.05), a decrease in SPT reactivity (Pharmalgen: P less than 0.001; Alavac: P less than 0.01), a marked increase in the nasal tolerance to HDM (P less than 0.001) and in HDM-specific IgG (P less than 0.001). In the group of untreated patients, all these parameters remained unchanged. Compared with the Alavac extract, the Pharmalgen extract was more active in decreasing SPT reactions (P less than 0.05) and inducing a HDM-specific IgG rise (P less than 0.05). Although both extracts induced some untoward allergic reactions, no adrenaline was used at any time during the study. These data suggest that hyposensitization with depot extracts of HDM can be considered a safe and active adjunct to the treatment of allergic rhinitis. Author.

**A multicentre study of loratadine, clemastine and placebo in patients with perennial allergic rhinitis.** Frolund, L., Etholm, B., Irander, K., Johannessen, T. A., Odkvist, L., Ohlander, B., Weeke, B. State University Hospital, Copenhagen, Denmark. *Allergy* (1990) May, Vol. 45 (4), p. 254–61.

This multicentre, double-blind, randomized parallel-group study compared three weeks' treatment with either loratadine (Claritin) 10 mg once daily, or clemastine (Tavegil) 1 mg twice daily, and placebo in outpatients with active perennial allergic rhinitis. One hundred and fifty-five patients were evaluated for efficacy and safety. Grading of four nasal and three non-nasal symptoms, rhi-

noscopia signs, and therapeutic response was performed on treatment days six, 13, and 20. Patients recorded daily symptoms and possible adverse experiences in a diary, also indicating when symptoms of active rhinitis were relieved. Loratadine and clemastine were statistically significantly superior to placebo throughout the study (P less than 0.05), based on assessment of patients' nasal and eye symptoms, patients' diary scores, rhinoscopia signs of symptoms, and onset of relief. The loratadine group showed a statistically significantly (P less than 0.05) faster onset of relief of symptoms compared with the group treated with clemastine. Concerning nasal stuffiness, loratadine was significantly (P less than 0.05) superior to clemastine after one week's treatment. Reports of adverse reactions showed that significantly (P less than 0.05) more patients complained of sedation in the clemastine than in the loratadine group. Regarding other adverse experiences and laboratory tests, the three treatment groups were statistically comparable (P less than 0.05). The study showed that compared with placebo both loratadine and clemastine were effective in relieving nasal and eye symptoms in patients with perennial allergic rhinitis. Loratadine was safe and well tolerated and was significantly less sedative than clemastine; loratadine may therefore possess an advantage in clinical use in the treatment of perennial allergic rhinitis. Author.

**An unusual complication of tracheal intubation.** Gray, B., Huggins, N. J., Hirsch, N. Department of Anaesthesia, National Hospital for Nervous Diseases, London. *Anaesthesia* (1990) Jul, Vol. 45 (7), p. 558–60.

We report a previously undescribed complication of tracheal intubation. The complication arose as a result of tracheal intubation performed as an emergency procedure in a patient with an abnormal anteriorly placed larynx. Subsequent corrective laryngeal surgery was required after a temporary tracheostomy had been performed. Author.

**Effects of a rapid antigen test for group A streptococcal pharyngitis on physician prescribing and antibiotic costs.** Meier, F. A., Howland, J., Johnson, J., Poisson, R. Medical College of Virginia, Virginia Commonwealth University, Richmond 23298–0433. *Archives of Internal Medicine* (1990) Aug, Vol. 150 (8), pp. 1696–700.

Decision analysis and opinion survey suggest that introduction of rapid antigen detection tests should decrease the number of patients with negative test results for group A streptococcal pharyngitis treated by antibiotics. We reviewed all cases in which a test for group A streptococcal pharyngitis was performed during the last seven months of culture diagnosis and the first seven months of antigen test diagnosis at an inner city community health center, recording culture or antigen test results, whether antibiotics were prescribed, and patient status (as regular health center patients or patients referred to the centre). Positive rates for culture and antigen-test periods were similar (10 and 12 per cent), but 53 per cent of patients with negative culture were treated, where only 32 per cent of patients with negative antigen-test results received prescriptions. Significant reductions in the treatment of patients with negative test results were found in both patient-status subpopulations: health center patients, 43 to 29 per cent; referred patients, 91 to 52 per cent. Among health center patients reductions were consistent for both adult (30 to 21 per cent) and child and adolescent (55 to 45 per cent) age groups. For all patients with negative test results, direct costs of diagnostic reagents and antibiotic prescriptions fell from \$3.58 per patient with culture to \$3.45 with antigen testing; the \$0.13 savings per patient was due to less treatment of referred patients. Thus, rapid antigen testing led to (1) significantly fewer patients with negative test results receiving antibiotic prescriptions; and, (2) savings in antibiotic costs offsetting reagent cost of antigen detection diagnosis. Author.

**Diagnosis of group A beta-hemolytic Streptococcus using clinical**

**scoring criteria, Directigen 1-2-3 group A streptococcal test, and culture.** Reed, B. D., Huck, W., French, T. Department of Family and Preventive Medicine, University of Utah, Salt Lake City. *Archives of Internal Medicine* (1990) Aug, Vol. 150 (8), pp. 1727-32.

Cultures for group A beta-hemolytic *Streptococcus* were performed on 806 patients presenting with a sore throat to five urgent care centers. The accuracies of a clinical scoring system and of a liposomal in-office direct test for *Streptococcus* were compared with culture results. The Directigen 1-2-3 group A streptococcal test had a sensitivity of 67 per cent, a specificity of 85 per cent, a positive predictive value of 61 per cent, and a negative predictive value of 89 per cent compared with culture. The scoring system had a sensitivity of 26 per cent, a specificity of 94 per cent, a positive predictive value of 58 per cent, and a negative predictive value of 79 per cent. Using a combination of the direct test results and the clinical score did not improve the accuracy significantly over the use of either alone. The rates of delayed treatment, unnecessary treatment, and increased costs were compared using different combinations of the clinical scoring system, the in-office streptococcal test, and culture. Neither the Directigen 1-2-3 group A streptococcal test nor the clinical score can replace culture in the diagnosis of group A beta-hemolytic streptococcal pharyngitis. Author.

**Superior oblique muscle dysfunction following anterior ethmoidal artery ligation for epistaxis.** Couch, J. M., Somers, M. E., Gonzalez, C. Department of Ophthalmology and Visual Science, Yale University School of Medicine, New Haven, Conn. *Archives of Ophthalmology* (1990) Aug, Vol. 108 (8), pp. 1110-3.

Superior oblique muscle palsy is a frequently encountered acquired muscle deficit accounting for vertical and torsional diplopia. There were two cases of residual isolated superior oblique palsy following anterior ethmoidal artery ligation for epistaxis, a finding not previously reported. The mechanism is suggested to be due either to direct trochlear damage by separation from the periosteum or to localized hematoma formation beneath the periosteum with resultant fibrosis and displacement of the trochlea from its normal apposition to the frontal bone. Author.

**Contact ulcers of the larynx. A reacquaintance with the pathology of an often underdiagnosed entity.** Wenig, B. M., Heffner, D. K. Department of Otolaryngic Pathology, Armed Forces Institute of Pathology, Washington, DC 20306-6000. *Archives of Pathology and Laboratory Medicine* (1990) Aug, Vol. 114 (8), pp. 825-8.

We reviewed the histologic features of 105 cases of contact ulcers of the larynx. Despite its characteristic clinical findings and correlative histopathology, the appropriate diagnosis was suggested in only one case. Instead, a descriptive diagnosis was most often rendered. Lesions for which this entity has been mistaken include pyogenic granuloma, hemangioma, hemangiopericytoma, Kaposi's sarcoma, angiosarcoma, spindle cell carcinoma, and granulomatous infectious diseases. Inappropriate diagnosis or failure to recognize the pathologic features of these lesions as correlating to a specific disease state deprives the patient of curative, well-established therapeutic procedures. We describe the histologic spectrum of contact ulcer of the larynx as well as its clinical findings, thereby familiarizing pathologists to an entity well recognized by otolaryngologists. Author.

**Hearing disorders in patients with insulin-dependent diabetes mellitus.** Parving, A., Elberling, C., Balle, V., Parbo, J., Dejgaard, A., Parving, H. H. Department of Audiology, Gentofte University Hospital, Copenhagen, Denmark. *Audiology* (1990), Vol. 29 (3), pp. 113-21.

The cochlear and retrocochlear hearing function was evaluated in patients with long- and short-term insulin-dependent diabetes mellitus (IDDM) by means of psychoacoustic testing and auditory brain stem responses (ABR). Twenty patients with diabetic microangiopathy (median age 41 years, range 25-66 years) were examined. The median duration of their diabetes was 26 years (range 13-46 years). In addition, 19 patients without microangiopathy (median age 27 years, range 17-42 years) and with a median duration of the diabetes of two years (range 0-6 years) were examined. The metabolic control estimated by blood glucose concentration and glycosylated haemoglobin was identical in the two groups of IDDM patients. After correction for age and sex, no significant

differences in hearing thresholds or discrimination scores were present between the two diabetic groups, or between the diabetic patients and an age- and sex-matched normal background population. In the patients with long-term IDDM, ABR produced abnormal responses in 40 per cent, indicating the presence of diabetic encephalopathy, whereas ABR were abnormal in only five per cent of the patients with short-term IDDM. Author.

**Brainstem auditory-evoked response in the rat. Normative studies, with observations concerning the effects of ossicular disruption.** Burkard, R., Feldman, M., Voigt, H. F. Department of Communication Disorders, Boston University, Mass. *Audiology* (1990) Vol. 29 (3), pp. 146-62.

Six young adult Sprague-Dawley rats were unilaterally cochleotomized, brainstem auditory-evoked responses (BAERs) to clicks and to 1-, 2-, 4-, 8- and 16-kHz tone bursts were obtained. In addition, response thresholds were estimated before and after ossicular disruption in the non-cochleotomized ear of four animals. With increasing tone burst frequency, there was a decrease in BAER peak latencies as well as a decrease in threshold. With increasing click and tone burst intensity, there was a decrease in peak latencies and an increase in peak amplitudes. BAER peak latency/intensity functions to click stimuli ranged from -0.013 to -0.018 ms/dB. With increasing tone burst frequency there was a decrease in the slope of the latency/intensity function. Following ossicular disruption, BAER thresholds to clicks were elevated by an average of 49 dB. Threshold shifts to tone burst stimuli were smallest for 1- and 2-kHz tone bursts (35-36 dB) and increased with increasing frequency up to a maximum of 65 dB for 16-kHz tone bursts. Author.

**Recurrent sinusitis and impairment of eustachian tube function in air passengers and crew.** Moser, M., Wolf, G. Department of Otorhinolaryngology, University of Graz, Austria. *Aviation, Space and Environmental Medicine* (1990) Jul, Vol. 61 (7), pp. 662-5.

Chronic and recurrent sinusitis, and thus impaired tubular function, are usually caused by isolated lesions of the ethmoid cells. Purulent nasal secretions are transported over the openings of the tubes into the epipharynx. Inflammation and swelling of the mucosa of the tube openings causes stenosis or blockage. Inflammatory foci, usually hidden in the anterior ethmoid cell system, are not always apparent in a plain film of the paranasal sinuses. They appear only in a computed-tomography scan or in a conventional tomogram. Once the diagnosis has been made, a simple, guided endoscopic procedure suffices to alleviate a stenosis, open inflamed ethmoid cells, and restitute ventilation of the nasal sinuses and, thus, tubal function. Radical procedures on the maxillary and frontal sinuses, and plastic operations on deviated nasal septa (which impair the function of the nose and the nasal sinuses only in extreme cases), are thus often unnecessary. Septum deviations are irrelevant to the fitness-to-fly of air personnel as long as the tube and the ventilation of the sinuses function freely. The Valsalva maneuver with otoscopic visualization of the excursion of the eardrum is the most reliable test of tubal function. Tympanometry is used mainly for documentation. Author.

**An immunohistochemical assessment of cellular proliferation markers in head and neck squamous cell cancers.** Kearsley, J. H., Furlong, K. L., Cooke, R. A., Waters, M. J. Queensland Institute of Medical Research, Royal Brisbane Hospital, Australia. *British Journal of Cancer* (1990) Jun, Vol. 61 (6), pp. 821-7.

Prognostic information is essential for the evaluation, judgement and optimal treatment of patients with squamous cell cancers (SCCs) of the upper aerodigestive tract. Using immunohistochemical and flow cytometric techniques, we have studied the significance of cellular expression of the Ki-67 antigen, epidermal growth factor receptor (EGFR), the transferrin receptor (TFR) and DNA ploidy status in a prospective analysis of patients with SCCs of the head and neck region. All 42 fresh tumour samples (five well differentiated; 28 moderately differentiated; nine poorly differentiated) expressed both EGFR and TFR to varying degrees. Receptor expression was most marked on the peripheral invading margin of cancer cell islands although staining was also demonstrated in a random fashion within cellular islands and consistently along the basal cell layer of overlying stratified squamous epithelium. The percentage of cancer cells that reacted with the Ki-67 monoclonal

antibody was assessed as low (less than 10 per cent) in 15 samples (35.8 per cent), intermediate (10–30 per cent) in 19 samples (45.2 per cent) and high (greater than 30 per cent) in eight samples (19 per cent). Eleven of 15 samples (73 per cent) with a low percentage reactivity were DNA diploid, whereas seven of eight samples (87.5 per cent) with a high percentage reactivity were DNA aneuploid. Poorly differentiated SCCs were significantly more often aneuploid than were either moderately or well differentiated tumours. Our results suggest that EGFR and TFR are widely distributed on SCCs, especially on proliferating cells at the invading tumour margin. In addition, there is a close spatial correlation between cells expressing EGFR, TFR and those expressing the Ki-67 antigen. Tumours in which the staining intensity for both EGFR and TFR was intense invariably expressed the Ki-67 antigen in a high proportion of cells. Further patient follow-up will be important in determining whether intense EGFR and TFR staining, combined with a high percentage reactivity with Ki-67 antibody and DNA aneuploidy, will ultimately define a subset of head and neck cancer patients with a poor clinical outcome. Author.

**Ototoxicity of cisplatin in children and adolescents.** Skinner, R., Pearson, A. D., Amineddine, H. A., Mathias, D. B., Craft, A. W. Department of Child Health, University of Newcastle-upon-Tyne, Medical School, UK. *British Journal of Cancer* (1990) Jun, Vol. 61 (6), pp. 927–31.

Twenty-two children and adolescents who had received cisplatin for the treatment of solid tumours underwent audiometry to ascertain the extent of hearing damage. Five patients complained of hearing difficulties, causing difficulty at school in one child. Hearing loss greater than 20 decibels occurred in four patients at 1,000 Hz, seven at 2,000 Hz, 13 at 4,000 Hz and 21 at 8,000 Hz. Median hearing loss was greater at higher frequencies ( $P$  less than 0.0001), and with increasing cumulative dose of cisplatin. However, a 'plateau' phenomenon was observed, with no apparent further deterioration in hearing loss at doses greater than  $600 \text{ mg m}^{-2}$ . Two children who had received prior aural radiotherapy had severe hearing loss. Severe, mostly asymptomatic, ototoxicity is common in children given cisplatin. However, there is considerable interpatient variability in the hearing loss suffered. Author.

**Laryngeal cancer in Denmark: a nationwide longitudinal study based on register linkage data.** Guenel, P., Engholm, G., Lyng, E. Danish Cancer Society, Copenhagen. *British Journal of Industrial Medicine* (1990) Jul, Vol. 47 (7), pp. 473–9.

To identify high and low risk groups for laryngeal cancer in Denmark, all individuals aged 30–74 in the 1970 census were followed up over 10 years. Census data were linked with the Central Population Register to identify persons who died or emigrated during the follow-up, and with the Danish Cancer Register to identify cases of laryngeal cancer. Individuals were categorized according to sex, age, and sociodemographic characteristics as declared on the census forms. A multivariate analysis was carried out by means of multiplicative Poisson models. The study showed that the risk of laryngeal cancer was strongly related to sociodemographic factors. The risk for skilled workers living in Copenhagen (relative risk (RR) 4.76, 95 per cent confidence interval (CI) 3.61–6.28) was estimated to be almost five times higher than the risk for men self employed in agriculture and living in rural areas. The variation in the risk of laryngeal cancer is not fully explained by known variations in tobacco and alcohol consumption, and this study highlights additional risk factors particularly related to occupation and marital state. Author.

**Oropharynx carcinoma: irradiation alone versus induction chemotherapy plus irradiation—5 year results.** Calais, G., Reynaud-Bougnoux, A., Garand, G., Beutter, P., Le-Floch, O. Department of Oncology and Radiotherapy, University Hospital of Tours, France. *British Journal of Radiology* (1990) May, Vol. 63 (749), pp. 340–5.

Induction chemotherapy (CT) has demonstrated overall response rates of 80 per cent for oropharynx carcinomas, but no overall survival benefit has been reported. In order to determine the value of induction CT for such patients, we conducted a retrospective study: 121 patients were treated with CT and radiotherapy (RT) (Group One). This group was compared with a historical group of

84 patients treated by RT alone (Group Two). The CT used was Cisplatin associated with Bleomycin and Vincristin or Vindesin and with five Fluoro-uracil. An objective response to CT was observed for 41 per cent of patients. The five-year actuarial survival rate was 19 per cent for Group One and 24 per cent for Group Two. Patterns of failure were identical in the two groups. The only difference observed was for patients with N3 nodes (26 per cent of five year survival rate in Group One versus 20 per cent in Group 2) ( $p = 0.05$ ). The results did not depend on the histological differentiation, the tumour site or the type of CT. We conclude that this retrospective study failed to demonstrate an advantage for induction CT in oropharynx carcinoma except for patients with N3 nodes. Author.

**Serum cytotoxicity to human and rat oligodendrocytes in culture.** Ruijs, T. C., Olivier, A., Antel, J. P. Department of Neurology and Neurosurgery, McGill University, Montreal, Quebec, Canada. *Brain Research* (1990) May 28, Vol. 517 (1–2), pp. 99–104.

Serum from multiple sclerosis (MS) patients can cause demyelination in rat CNS explant cultures and induce cytotoxicity to rat oligodendrocytes in culture. The interpretation of these findings for MS is complicated by the fact that injury to myelin and oligodendrocytes can also be induced with normal human serum. In this study, we confirmed that serum from MS patients and healthy control subjects can cause in vitro toxicity to rat oligodendrocytes, as established by a  $^{51}\text{Cr}$  release assay, but we did not detect toxicity to human cultured oligodendrocytes. Morphologic changes after 5–6 h incubation with the sera were also extensive in the rat oligodendrocyte cultures. No morphologic changes or changes in cell numbers could be detected in the human cultures upon examination by light microscopy and by immunofluorescent staining with anti-GalC antibody. Author.

**A critical look at the TNM classification for laryngeal carcinoma.** Department of Radiation Oncology, Free University Hospital, Amsterdam, The Netherlands. *Cancer* (1990) May 1, Vol. 65 (9), pp. 1918–22.

A total number of 564 patients with glottic (427) and supraglottic (137) laryngeal carcinoma was prospectively staged clinicoendoscopically (CS) and radiologically (RS). These patients were treated from 1974 to 1985 with quality-controlled high-dose radiation therapy. The validity of CS versus RS was checked in this study with the parameter of recurrence-free adjusted survival (RFADS) at three and at five years. It appears that RS is more valid and has therapeutic implications in planning the target volume for irradiation. The CS should be regarded as inadequate for radiotherapeutic considerations. The International Union Against Cancer (UICC) 1987 norms for staging laryngeal carcinoma (clinical, endoscopic, and imaging) should be strictly followed. Author.

**Cancer of the nasopharynx in childhood.** Huang, T. B. Department of Nasopharyngeal Carcinoma, Sun Yat-Sen University of Medical Sciences, Guangzhou, People's Republic of China. *Cancer* (1990) Sep 1, Vol. 66 (5), pp. 968–71.

Between 1964 and 1983, 54,304 cases of nasopharyngeal carcinoma (NPC) patients were diagnosed at the Tumor Hospital, Sun Yat-Sen University of Medical Sciences, Guangzhou, People's Republic of China. Of the total, 53 (0.1 per cent) cases were younger than 14 years of age, and of these, none were Stage I, four (8 per cent) were Stage II, 36 (68 per cent) were Stage III, and 12 (23 per cent) were Stage IV. Among all cases, 26 per cent had initial symptoms characterized by lesions of the nasopharynx and the majority by cervical mass. Among the children, symptoms involving the cranial nerve were rarely observed. There were significant differences between adults and children on histopathology other than the ratio of carcinoma to sarcoma (4:1 for children; 443:1 for adults). Among the poorly differentiated carcinoma cases, vesicular nucleus carcinoma was observed more frequently in children than adults. The prognosis for children with NPC is poor with a five-year survival rate of 21 per cent in this series. If NPC is diagnosed early and radiotherapy begun promptly (with doses greater than 5000 cGy), the prognosis may be improved. Author.

**The influence of nasal patency on accelerometric transduction of nasal bone vibration.** Moon, J. Department of Speech Pathology

and Audiology, University of Iowa, Iowa City 52242. *Cleft Palate Journal* (1990) Jul, Vol. 27 (3), pp. 266–70; discussion 270–4.

The transmission characteristics of nasal tract energy to a nasal accelerometer were evaluated in relation to nasal tract airway resistance. Ten adult speakers repeated three utterances while recordings of nasal bone vibration, as detected by miniature accelerometers, were obtained simultaneously from both sides of the nose and referenced to a common throat signal. Average nasal-to-oral accelerometry ratios recorded from the more resistant side of the nose were significantly larger in magnitude than those recorded simultaneously from the less resistant side of the nose. While accelerometer ratio waveforms from each side of the nose essentially overlapped for some subjects, others displayed unilateral variations in accelerometer output as a function of time. The anatomic and physiologic condition of the nasal passage appears to be an important variable in the detection of nasal tract acoustic energy using the accelerometric technique. Author.

**Pharyngeal flap and facial growth.** Semb, G., Shaw, W. C. Odon-tological Department, Bredtvet Center for Logopedics, Oslo, Norway. *Cleft Palate Journal* (1990) Jul, Vol. 27 (3), pp. 217–24, Refs. The present study addressed two questions. Does the skeletal pattern of children with cleft lip and palate who require a pharyngeal flap differ from children with similar clefts who do not? Following a pharyngeal flap does the pattern of facial development change? Skeletal form prior to pharyngeal flap was compared using cephalograms in 52 subjects with unilateral cleft lip and palate (UCLP) who subsequently received a superiorly based pharyngeal flap and 52 UCLP controls matched for sex and age. The flap group had slightly smaller maxillary length and anterior face heights and greater mandibular protrusion ( $p$  less than 0.5) before the pharyngeal flaps were done. Preoperative and five-year (minimum) post-operative records were analyzed for 29 early pharyngeal flap cases and 29 matched controls. Subsequent growth demonstrated some assimilation of the flap group with the controls, but repeated measures analysis of variance failed to identify any important differences in growth after pharyngeal flap, suggesting that the superiorly based pharyngeal flap carries no systematic risk of interference with facial growth. Author.

**Degeneration of speech, language, and hearing in a patient with mucopolysaccharidosis VII.** Wallace, S. P., Prutting, C. A., Gerber, S. E. Department of Speech and Hearing Sciences, University of California, Santa Barbara 93106. *International Journal of Pediatric Otorhinolaryngology* (1990) Jun, Vol. 19 (2), pp. 97–107. Mucopolysaccharidosis VII (MPS-VII) is probably the rarest of the mucopolysaccharidoses; literature reveals only 20 cases. We have had the opportunity to study and treat such a child in our clinic, and this paper documents his speech, language, and hearing. Results demonstrated a delay with respect to his chronological age in all cognitive, linguistic, and social domains. He had a mixed hearing loss which could have contributed to his diminishing speech and language abilities; he had chronic otitis media. After 59 h of speech and language intervention (over a period of 19 months), primarily for language treatment, standardized tests revealed that his scores had decreased over time. During this period, both his speech production and his hearing got poorer. At about the time of his eighth birthday, he underwent a permanent tracheostomy, altering further therapy. Although MPS-VII is a very rare disorder, what has been learned here may apply to other MPSs and even to other multiply handicapped patients. We hope that the presentation of our findings may assist others when confronted with complex, degenerative disorders. Author.

**Subglottic hemangiomas in infants: treatment with intralesional corticosteroid injection and intubation.** Meeuwis, J., Bos, C. E., Hoeve, L. J., van der Voort, E. Department of ENT, Sophia Children's Hospital, Rotterdam, The Netherlands. *International Journal of Pediatric Otorhinolaryngology* (1990) Jun, Vol. 19 (2), pp. 145–50.

Six children with a subglottic hemangioma were treated in the Sophia Children's Hospital in the period 1982–1987 by means of intralesional corticosteroid injection, followed by intubation. After treatment all children were symptom free. In three patients this result was attained after one injection, in two after three injections. One patient needed five injections. The average duration of

intubation was 19 days (7–36). Three months (0.5–7.5) after the onset of therapy all patients were free of symptoms. No serious complications were observed. No patient needed a tracheotomy. The average follow-up period was 3.3 years (1.5–5.5). The authors feel that not only the effect of intralesional corticosteroids, but also local gentle pressure by the tube is of therapeutic importance. The above-mentioned treatment of subglottic hemangioma in children is now the treatment of choice in our clinic. Author.

**Reductions in overshoot during aspirin use.** McFadden, D., Champlin, C. A. Department of Psychology, University of Texas, Austin 78712. *Journal of the Acoustical Society of America* (1990) Jun, Vol. 87 (6), pp. 2634–42.

The overshoot effect was measured before, during, and after the administration of a moderate dose of aspirin. Prior to the drug, detectability of the 6 ms, 3550-Hz signal was 5–11 dB worse when presented 2 ms after the onset of the 200 ms wideband masking noise than when presented 190 ms after masker onset. Following four days of aspirin use, detectability in the long-delay condition was unchanged from the pre-drug value, but (for four of the five subjects) detectability in the short-delay condition was improved by about 4–8 dB. Thus the overshoot effect was markedly reduced by aspirin because the drug partially counteracted the normally poor detectability for signals presented soon after masker onset. This paradoxical improvement in detectability was accompanied by an aspirin-induced loss in detectability of 5–16 dB for a 200 ms sample of that same signal presented in the quiet. Similar paradoxical effects have previously been obtained by inducing a temporary hearing loss with exposure to intense sound. It is presumed that the same basic mechanisms underlie the parallel outcomes. The so-called cochlear amplifier is discussed in this regard, and also the possibility that the known differences in those primary auditory fibers having high and low spontaneous rates may be involved. A supplementary experiment demonstrated that shifting audibility with either a wideband or a narrow-band background noise does not affect the overshoot effect in the same way as does aspirin or exposure to intense sound, further suggesting that the cochlear amplifier must be altered in order for overshoot to be diminished. Author.

**The time course of acoustic/phonemic cue integration in the sensorineurally hearing-impaired listener.** Schum, D. J., Collins, M. J. Medical University of South Carolina, Department of Otolaryngology and Communicative Sciences, Charleston 29425. *Journal of the Acoustical Society of America* (1990) Jun, Vol. 87 (6), pp. 2716–28.

There is limited documentation available on how sensorineurally hearing-impaired listeners use the various sources of phonemic information that are known to be distributed across time in the speech waveform. In this investigation, a group of normally hearing listeners and a group of sensorineurally hearing-impaired listeners (with and without the benefit of amplification) identified various consonant and vowel productions that had been systematically varied in duration. The consonants (presented in a /ahCa/ environment) and the vowels (presented in a /bVd/ environment) were truncated in steps to eliminate various segments from the end of the stimulus. The results indicated that normally hearing listeners could extract more phonemic information, especially cues to consonant place, from the earlier occurring portions of the stimulus waveforms than could the hearing-impaired listeners. The use of amplification partially decreased the performance differences between the normally hearing listeners and the unaided hearing-impaired listeners. The results are relevant to current models of normal speech perception that emphasize the need for the listener to make phonemic identifications as quickly as possible. Author.

**A dose-ranging study of fluticasone propionate aqueous nasal spray for seasonal allergic rhinitis assessed by symptoms, rhinomanometry, and nasal cytology.** Meltzer, E. O., Orgel, H. A., Bronsky, E. A., Furukawa, C. T., Grossman, J., La Force, C. F., Lemanske, R. F. Jr., Paull, B. D., Pearlman, D. S., Ratner, P. H., et al. Allergy and Asthma Medical Group and Research Center, San Diego, CA 92123. *Journal of Allergy and Clinical Immunology* (1990) Aug, Vol. 86 (2), pp. 221–30.

Fluticasone propionate is a new glucocorticosteroid with potent topical activity. In a double-blind, randomized, parallel-group study, 423 adult patients with moderate to severe seasonal allergic

rhinitis received placebo or fluticasone propionate aqueous nasal spray at doses of 25, 100, or 400 micrograms twice daily (b.i.d.) for two weeks. Efficacy was evaluated by nasal symptom scores, nasal airflow, nasal cytology, and global evaluation. All doses of fluticasone propionate were significantly better than placebo in reducing symptoms of seasonal allergic rhinitis. Patients receiving the largest dose of fluticasone propionate (400 micrograms b.i.d.) had a slightly greater reduction (not significant) in symptom scores than patients receiving the smallest dose (25 micrograms b.i.d.). Symptom improvement was evident within three days of treatment. Nasal airflow improved in the groups treated with fluticasone propionate, 100 and 400 micrograms b.i.d. Examination of nasal cytograms revealed a striking decrease in both eosinophils and basophils in all three groups receiving active treatment compared with placebo. There were few adverse events and no treatment-related abnormalities in laboratory assays or evaluations of hypothalamo-pituitary-adrenocortical axis function. Comparison of treatment groups indicated that fluticasone propionate aqueous nasal spray was as safe as placebo at the doses studied. Author.

**Hypopharyngeal and neck cross-sectional changes monitored by inductive plethysmography.** Liistro, G., Stanescu, D., Dooms, G., Veriter, C., Aubert-Tulkens, G., Rodenstein, D. Pulmonary Laboratory, Cliniques Universitaires St. Luc, Brussels, Belgium. *Journal of Applied Physiology* (1990) Jun, Vol. 68 (6), pp. 2649–55.

We present a method to assess cross-sectional area (CSA) changes of the extrathoracic airways (EA) by using an inductive plethysmograph (IP) band placed around the upper part of the neck. Measurements of mouth pressure (Pm) (or flow rate, V) and neck CSA changes during respiratory efforts against a high (or infinite) resistance have shown a highly significant relationship between Pm changes (or V changes, respectively), reflecting CSA changes of the EA and CSA changes of the neck. Simultaneous measurements of CSA of the neck (by IP) and of EA (by computerized tomography) during sustained inspiratory and expiratory efforts against a closed airway showed a high correlation between changes in the former and latter structures. Changes in CSA of the neck were larger with positive than negative transmural pressures, in keeping with the known larger compliance of this airway during expiration. We found this method helpful to assess the behavior of the EA during obstructive apnea episodes, hypopneas, and snoring. Author.

**Occlusion of the vertebral artery in cervical spine dislocations.** Louw, J. A., Mafoyane, N. A., Small, B., Nesor, C. P. Kalafong Hospital, South Africa. *Journal of Bone & Joint Surgery (Br)* (1990) Jul, Vol. 72 (4), pp. 679–81.

We studied 12 consecutive patients with facet joint dislocation in the cervical spine to assess the incidence, site and clinical sequelae of occlusion of the extracranial vertebral artery. Intra-arterial digital subtraction angiography was performed after the orthopaedic management of the dislocations. This demonstrated vertebral artery occlusion (one bilateral) in five of the seven patients with bilateral dislocations and in four of the five patients with unilateral dislocations. Two of the nine patients with vertebral artery occlusion had neurological deficits above the level of the injury, all of which resolved spontaneously within two months. In our experience, a distraction-flexion injury appears to be the most common cause of closed traumatic vertebral artery occlusion. Author.

**Respiratory viruses interfere with bacteriologic response to antibiotics in children with acute otitis media.** Chonmaitree, T., Owen, M. J., Howie, V. M. Department of Pediatrics, University of Texas Medical Branch, Galveston 77550. *Journal of Infectious Diseases* (1990) Aug, Vol. 162 (2), pp. 546–9.

Fifty-eight infants and children with acute otitis media were prospectively studied for bacterial and viral pathogenesis and response to antibiotic therapy. Tympanocentesis for bacterial and viral cultures of middle ear fluids (MEF) was done before and 2–4 days after beginning treatment. Patients were followed until the end of antibiotic course. Bacteria were cultured from the preantibiotic MEF in 43 cases (74 per cent). Viruses were cultured from the preantibiotic MEF in 11 cases (19 per cent); all of these MEFs also contained bacterial pathogens. A significantly higher proportion of patients with both virus and bacteria (50 per cent) failed to respond

with clearing of bacteria 2–4 days into therapy compared with the group with bacteria alone (13 per cent). The patients with persistently positive viral cultures of the MEF seemed to have purulent otitis of longer duration. Presence of virus in the MEF may interfere with bacteriologic and clinical responses to antibiotic. The mechanism of interference deserves further investigation. Author.

**Otitis media in infancy and intellectual ability, school achievement, speech and language at age seven years. Greater Boston Otitis Media Study Group.** Teele, D. W., Klein, J. O., Chase, C., Menyuk, P., Rosner, B. A. Department of Pediatrics, Boston City Hospital, Massachusetts 02118. *Journal of Infectious Diseases* (1990) Sep, Vol. 162 (3), pp. 685–94.

To determine intellectual and linguistic sequelae of middle ear disease, 207 children were randomly selected from a cohort of 498 followed prospectively from birth until age seven years. After controlling for confounding variables, estimated time spent with middle ear effusion (MEE) during the first three years of life was significantly associated with lower scores on tests of cognitive ability, speech and language, and school performance at age seven years. The adjusted mean full-scale WISC-R were 113.1 for those with least time with MEE, 107.5 for those with moderate time, and 105.4 for those with most time. Similar significant differences were found for verbal and performance IQ scores. For the Metropolitan Achievement Test, we found that middle ear disease in the first three years of life was associated with significantly lower scores in mathematics and reading. Similar differences were found for articulation and use of morphologic markers. After considering time spent with MEE during the first three years of life, time spent after age three years was not a significant predictor of scores on any of the tests administered. Author.

**Epidemiological evidence indicates asbestos causes laryngeal cancer.** Smith, A. H., Handley, M. A., Wood, R. Department of Biomedical and Environmental Health Sciences, School of Public Health, University of California, Berkeley. *Journal of Occupational Medicine* (1990) Jun, Vol. 32 (6), pp. 499–507.

A variety of opinions have been expressed in the literature concerning asbestos and laryngeal cancer. This paper presents an analysis of epidemiological studies based on criteria that prioritized the most heavily exposed cohorts. Emphasis was given to the six cohorts or subcohorts with lung cancer relative risk estimates of two or more. The two groups of workers with the highest lung cancer relative risk estimates (4.06 and 3.28) both gave strong support for a causal association of asbestos and laryngeal cancer, with relative risk estimates of 1.91 (90 per cent confidence limits 1.00 to 3.34) and 3.75 (90 per cent confidence limits 1.01 to 9.68), respectively. Confounding with cigarette smoking or alcohol consumption does not explain the findings. Case-control studies gave mixed results, but generally supported the hypothesis. It was concluded that asbestos is a probable cause of laryngeal cancer in view of the reasonable consistency of the studies, the strength of the association in key studies, the evidence for dose-response relationships, and the biological plausibility for asbestos being a cause of laryngeal cancer. Author.

**Temporomandibular joint ankylosis following mastoiditis: report of a case.** Faerber, T. H., Ennis, R. L., Allen, G. A. Graduate Training Program, Truman Medical Center, Kansas City, MO 64108. *Journal of Oral & Maxillofacial Surgery* (1990) Aug, Vol. 48 (8), pp. 866–70.

A case of TMJ ankylosing following otitis media and mastoiditis is described and its treatment presented. The infectious etiology of ankylosis is reviewed, with emphasis on mastoid infections. Theories are presented as to the possible mechanisms by which such infections can spread into the glenoid fossa. Author.

**The arthroscopic appearance of acute temporomandibular joint trauma.** Goss, A. N., Bosanquet, A. G. Oral and Maxillofacial Surgery Unit, University of Adelaide, South Australia. *Journal of Oral & Maxillofacial Surgery* (1990) Aug, Vol. 48 (8), pp. 780–3; discussion 784.

The arthroscopic appearance of the temporomandibular joint following acute trauma sufficient to result in mandibular fracture was described in 40 joints in 20 patients. It was found that 38 of 40 joints

showed evidence of intra-articular damage. Hemarthrosis with shredding of the disc and joint surfaces was the most common finding. The hemarthrosis rapidly resolved but the shredding remained. The degree of damage was related to the site of mandibular fracture with the most damage being seen when the condylar neck was not fractured. Author.

**Behavioral changes correlated with brain-stem auditory evoked responses in term infants with moderate hyperbilirubinemia.** Vohr, B. R., Karp, D., O'Dea, C., Darrow, D., Coll, C. G., Lester, B. M., Brown, L., Oh, W., Cashore, W. Department of Pediatrics, Women and Infants' Hospital of Rhode Island, Brown University Program in Medicine, Providence 02905. *Journal of Pediatrics* (1990) Aug, Vol. 117 (2 Pt 1), pp. 288–91.

The purpose of this study was to test the hypotheses that newborn infants with moderate serum bilirubin concentrations have depressed Brazelton scores and increased brain-stem conduction time and that serum bilirubin levels correlate with Brazelton behavior scores and brain-stem auditory evoked response changes. Fifty term infants who were enrolled into either a low serum bilirubin group (less than 8 mg/dl) or a moderate serum bilirubin group (10 to 20 mg/dl) were tested with the Brazelton Neonatal Behavioural Assessment Scale and a brain-stem auditory evoked response test. Partial correlation analysis controlling for phototherapy revealed that increased bilirubin concentration correlated negatively with the Brazelton orientation and with state range clusters and individual Brazelton test items that involve auditory processing. Increased bilirubin concentration correlated with an increased latency of brain-stem auditory evoked response wave 4, 5. An increased interpeak 1–5 (brain-stem conduction time) correlated with the decreased animate visual and auditory item. We conclude that moderate hyperbilirubinemia in term infants affects both infant behavior, as measured by specific components of the Brazelton test, and brain-stem conduction time, as measured by the brain-stem auditory evoked response test. Author.

**Vision and hearing during deferoxamine therapy.** Cohen, A., Martin, M., Mizanin, J., Konkle, D. F., Schwartz, E. Division of Hematology, Children's Hospital of Philadelphia, PA 19104. *Journal of Pediatrics* (1990) Aug, Vol. 117 (2 Pt 1), pp. 326–30.

To determine the frequency of eye and auditory complications and their relationship to drug dosage and iron stores in patients receiving deferoxamine, we studied 52 regularly transfused patients who received deferoxamine by subcutaneous or intravenous infusion in doses from 26 to 136 mg/kg/day, and whose serum ferritin levels of 185 to 17,775 micrograms/L reflected a wide range of iron stores. Forty-nine patients (94 per cent) had no evidence of drug-induced visual or auditory abnormalities. Symptomatic loss of vision and hearing developed in one patient; both problems improved when chelation therapy was stopped. Of the 51 symptom-free patients, one had a mild degree of macular stippling and one had a mild, bilateral, high-frequency sensorineural hearing loss. Eye and ear abnormalities in the symptom-free patients did not progress despite continuation or resumption of chelation therapy at the same dosage. Patients with ophthalmologic and audiologic abnormalities did not receive higher doses of deferoxamine and did not have lower serum ferritin levels than patients without such abnormalities. These findings demonstrate that eye and ear abnormalities during chelation therapy with deferoxamine may not occur uniformly at as high a frequency as previously reported, even in patients who receive large doses of the chelating agent or who have only modest amounts of excessive iron. Author.

**Space motion sickness.** Pingree, B. J. *Journal of the Royal Naval Medical Service* (1990) Spring, Vol. 76 (1), pp. 25–32, ISSN: 0035-9033 39 Refs.

Space Motion Sickness (SMS) is the malady which frequently occurs shortly after attainment of sustained exposure to hypogravity. It is characterized by a variety of symptoms, which may proceed to nausea and eventually vomiting. Natural adaptation usually occurs if exposure to hypogravity is maintained. The condition appears to be the manifestation of motion sickness that is specific to hypogravity. It is associated with otolith-canal and otolith-eye conflict. SMS may have operational significance in impairing the performance of spacecraft crews. The condition is likely to be amenable to treatment with anti-motion sickness drugs. It may be

possible to reduce any operational effects of SMS by suitable crew selection and training procedures. Author.

**Description of laryngeal pathologies in children evaluated by otolaryngologists.** Dobres, R., Lee, L., Stemple, J. C., Kummer, A. W., Kretschmer, L. W. University of Cincinnati, OH. *Journal of Speech and Hearing Disorders* (1990) Aug, Vol. 55 (3), pp. 526–32.

The purpose of this investigation was to describe the occurrence of laryngeal pathologies and their distribution across age, sex and race in a pediatric sample. Data were collected on 731 patients seeking evaluation or treatment at a children's hospital otolaryngology clinic. The most frequent laryngeal pathologies were subglottic stenosis, vocal nodules, laryngomalacia, and vocal fold paralysis. For the total sample, laryngeal pathologies were significantly more common to males than females. Laryngeal pathologies were most common in the youngest patients. The distribution of pathologies within each race was similar to that found throughout the total sample. Comparisons with similar investigations are made. Implications for management are discussed. Author.

**Characterization of tinnitus by tinnitus patients.** Stouffer, J. L., Tyler, R. S. Department of Otolaryngology-Head and Neck Surgery, University of Iowa Hospitals and Clinics, Iowa City. *Journal of Speech and Hearing Disorders* (1990) Aug, Vol. 55 (3), pp. 439–53.

A questionnaire was administered to 528 tinnitus patients to obtain data on their reactions to tinnitus. Results include a discussion of: (a) population characteristics, (b) perceptual characteristics, (c) the impact of tinnitus on daily life, and (d) etiology. Significant gender differences are also discussed. Tinnitus was not an occasional phenomenon, but was present for more than 26 days per month in 74 per cent of the patients. Other important findings about tinnitus include: (a) Hearing levels at 1000 and 4000 Hz were less than or equal to 25 dB HL for 18 per cent of the tinnitus patients, which suggests that some patients had normal hearing or mild hearing losses; (b) the prevalence of tinnitus in patients with noise-induced hearing loss (NIHL) was 30 per cent for males and only 3 per cent for females; (c) about 25 per cent of the patients reported tinnitus severity had increased since tinnitus onset; (d) the effects of tinnitus were more severe in patients who reported tinnitus as their primary complaint and in patients diagnosed as having Meniere's syndrome tinnitus; and (e) some patients reported that noise exacerbated their tinnitus, whereas others reported that a quiet background exacerbated their tinnitus. Author.

**Acoustical effects of endotracheal intubation.** Yonick, T. A., Reich, A. R., Minifie, F. D., Fink, B. R. University of Washington, Seattle. *Journal of Speech and Hearing Disorders* (1990) Aug, Vol. 55 (3), pp. 427–33.

Certain acoustical consequences of endotracheal intubation were examined in 13 male cardiovascular-surgery patients. Each subject recorded three tokens of a sustained vowel one day before intubation, one day after, upon discharge, and during a follow-up visit. Eight acoustical measures were obtained from the audio-recorded vowels: (a) mean fundamental frequency (Fo), (b) Fo standard deviation, (c) Fo perturbation quotient, (d) mean sound pressure level (SPL), (e) SPL standard deviation, (f) SPL perturbation quotient, (g) spectral flatness of the residue signal, and (h) coefficient of excess. Mean Fo, Fo standard deviation, mean SPL, SPL standard deviation, and coefficient of excess did not differ significantly across recording sessions, although certain predictable trends were apparent. Fo perturbation quotient, SPL perturbation quotient, and spectral flatness of the residue signal varied significantly across sessions, implying that these acoustical measures may be useful in the identification and monitoring of even minor intubation-related laryngeal trauma. Author.

**Hypointense paranasal sinus foci: differential diagnosis with MR imaging and relation to CT findings.** Som, P. M., Dillon, W. P., Curtin, H. D., Fullerton, G. D., Lidov, M. Department of Radiology, Mount Sinai Medical Centre, City University of New York, NY 10029. *Radiology* (1990) Sep, Vol. 176 (3), pp. 777–81.

Despite the plethora of information provided by magnetic resonance (MR) imaging that allows differentiation of some substances that are indistinguishable at computed tomography (CT), there are diagnostic problems. In particular, there are several quite disparate substances that all appear as either low signal intensity or signal void on T1-weighted images and even lower signal intensity or signal void on T2-weighted images. These substances include air, desiccated secretion, mycetomas, acute hemorrhage, calcium, bone, and enamel. When they are surrounded by material that has long T1 and T2 relaxation times, a not uncommon MR appearance in the sinonasal cavities, they may be impossible to differentiate from one another. The current explanations for the low signal intensities are presented, the similarities in the MR appearance are illustrated, and the use of CT to resolve diagnostic problems is discussed. CT appears to be the best modality for initially examining patients with suspected routine inflammatory disease or fungal infection. Author.

**Tracheal agenesis.** Chiu, T., Cuevas, D., Cuevas, L., Monteiro, C. Department of Pediatrics, University Hospital of Jacksonville, University of Florida College of Medicine 32209. *Southern Medical Journal* (1990) Aug, Vol. 83 (8), pp. 925–30.

Tracheal agenesis is a rare congenital anomaly. We report a case and review the cases previously reported. Clinical features that might indicate tracheal agenesis include antenatal polyhydramnios, severe respiratory distress, absence of an audible cry, failure to advance an endotracheal tube beyond the larynx, a palpable distal trachea, clinical improvement after esophageal intubation, and roentgenographic absence of a tracheal air column with an abnormal position of the carina. For immediate management of the affected infant, we recommend intubation of the esophagus with an endotracheal tube to provide an air passage, and determination of the level of the defect by careful use of contrast material and roentgenography. Infants having type I tracheal agenesis may benefit from immediate tracheostomy. Author.