

Abstract Selection

Effects of nasal positive-pressure hyperventilation on the glottis in normal sleeping subjects. Jounieaux, V., Aubert, G., Dury, M., Delguste, P., Rodenstein, D. O. Pneumology Unit, Cliniques Universitaires Saint Luc, Université Catholique de Louvain, Brussels, Belgium. *Journal of Applied Physiology* (1995) July, Vol. 79 (1), pp: 186–93.

We have previously observed that, in normal awake subjects passively hyperventilated with intermittent positive-pressure ventilation delivered through nasal access (nIPPV), the glottis could interfere with the ventilation. We report on data obtained in the same subjects during stable sleep. In all cases, the glottis was continuously observed through a fibre-optic bronchoscope, and other indexes were also continuously recorded. Mechanical ventilation was progressively increased up to 30 l/min. We have observed during passive nIPPV in stable sleep that increases in delivered minute ventilation (VE_d) resulted in progressive narrowing of the glottic aperture, with increases in inspiratory resistance and progressive reductions in the percentage of the delivered tidal volume effectively reaching the lungs. For a given level of VE_d, comparisons showed that the glottis was significantly narrower during sleep than during wakefulness and that the glottis was significantly narrower during stage 2 than during stages 3/4 non-rapid-eye-movement sleep. Moreover, when CO₂ is added to the inspired air, glottic aperture increased in five of nine trials without changes in sleep stage. We also observed a significant negative correlation between glottic width and the VE_d, independent of the CO₂ level. We conclude that during nIPPV glottis narrowing results in a decrease in the proportion of the delivered tidal volume reaching the lungs. Author.

Interstitial high-dose rate brachytherapy with iridium-192 in patients with oral squamous cell carcinoma. Friedrich, R. E., Krull, A., Hellner, D., Schwarz, R., Heyer, D., Plambeck, K., Schmelzle, R. Department of Oral and Maxillofacial Surgery, Eppendorf University Hospital, University of Hamburg, Germany. *Journal of Craniomaxillofacial Surgery* (1995) August, Vol: 23 (4), pp: 238–42.

Thirty-four patients with recurrent oral and oropharyngeal carcinomas were treated over a period of four years, by interstitial high-dose rate (HDR) brachytherapy (BT) using an iridium-192 source (Gammamed 2i and 12i equipment. Sauerwein, Germany) and fractionated application (one up to three times, weekly recovery phases, single maximum dose 10 Gy). Pretreatment characteristics of patients in terms of irradiation (RT) and surgery differed (22 had external RT alone, with a total dose between 60.0 and 75.6 Gy; RT and surgery: seven; surgery alone: one). The initial TNM-stages (UICC, Hermanek *et al.*, 1987) of patients were: I = 2, II = 3, III = 7, IV = 22. In the majority of cases, clinical indications for HDR-BT included tumour recurrence or progression following external RT, and second primary tumours of the oral cavity. Therapy was successful in most cases, i.e. complete remission: 11, partial remission: 16, no change: 2, progression: 5. Local control and overall survival rates, including patients surgically treated after BT, were at six months 58 per cent and 62 per cent, and 44 per cent and 53 per cent at 12 months, respectively. This type of treatment is recommended in patients with local recurrence or second primary tumours after previous external RT in the head and neck region. However, the benefit of interstitial HDR-BT remains questionable, particularly in patients with large tumours and lymph node metastases. Author.

Computed tomographic evaluation of lymph node metastasis in head and neck carcinomas. Shingaki, S., Suzuki, I., Nakajima, T., Hayashi, T., Nakayama, H., Nakamura, M. First Department of Oral and Maxillofacial Surgery, School of Dentistry, Niigata University, Japan. *Journal of Craniomaxillofacial Surgery* (1995) August, Vol. 23 (4), pp: 233–7.

A retrospective study of 53 patients was undertaken to evaluate the efficacy of computer tomography (CT) in the detection of nodal metastases from carcinomas of the head and neck. The CT findings of 53 patients with head and neck carcinomas who underwent a total of 57 neck dissections were compared with the findings of physical examination (PE) and histopathological examination. Using node size larger than 10 mm in the short-axis diameter or the presence of central lucency as the criteria of nodal metastasis CT scanning staged correctly 52 of 57 necks, providing an accuracy of 91 per cent, a sensitivity of 86 per cent and a specificity of 100 per cent in the detection of nodal metastases. There was agreement of PE findings with histology in 43 (74 per cent) of 57 necks, with a sensitivity of 97 per cent and a specificity of 38 per cent, respectively. Because CT scanning was superior to PE in the pre-operative staging of head and neck carcinomas, it should be used for pre-operative evaluation of metastatic neck disease. Author.

Nasopharyngeal antibodies to pneumococcal capsular polysaccharides in children with acute otitis media. Virolainen, A., Vero, J., Kayhty, H., Karma, P., Leinonen, M., Eskola, J. Department of Otolaryngology University of Helsinki, Finland. *Journal of Infectious Diseases* (1995) October, Vol. 172 (4), pp: 1115–8.

Antibodies to pneumococcal capsular polysaccharides were measured by EIA in acute- and convalescent-phase nasopharyngeal aspirates from 120 children with acute otitis media. Nasopharyngeal IgM- and IgG-class antibodies were rare, whereas IgA was detected more often, occurred independently from serum IgA, and correlated with the presence of the secretory component in pneumococcal antibody, indicating local production of IgA. Thirty-four per cent of the children with pneumococci in middle ear fluid developed a nasopharyngeal IgA response to the polysaccharide pool of serotypes 6B, 14, 19F, and 23F compared with seven per cent of the children with pneumococci only in the nasopharynx or not found at all (= 0.004). The responses were observed in children of all ages, the youngest six months of age. This supports the hypothesis that mucosal immunity to bacterial polysaccharides matures earlier than systemic immunity. Author.

Thalamo-olivary degeneration in a patient with laryngopharyngeal dystonia. Yamamoto, T., Yamashita, M. Department of Neurology, Osaka Saiseikai Nakatsu Hospital, Japan. *Journal of Neurology, Neurosurgery and Psychiatry* (1995) October, Vol. 59 (4), pp: 438–41.

A 67-year-old woman with a two-year history of laryngopharyngeal dystonia, spasmodic dysphonia, and parkinsonism succumbed to Wernicke's encephalopathy and died six months later. Necropsy showed, besides Wernicke's encephalopathy, degenerative changes in selected thalamic nuclei (dorsomedial, pulvinar, and the medial geniculate bodies) and the inferior olives and numerous cerebellar torpedoes. The substantia nigra and basal ganglia were spared. Immunostaining for prion protein was negative. This patient indicated a new type of presentation of so-called pure thalamic degeneration, or more precisely thalamo-olivary degeneration. Author.

Antibiotic resistance among respiratory pathogens in preschool children. Hammond, M. L., Norriss, M. S. Dorevitch Pathology, Melbourne, VIC. *Medical Journal of Australia* (1995) September 4, Vol. 163 (5), pp: 239–42.

OBJECTIVE: To determine the prevalence of antibiotic resistance among common respiratory pathogens circulating in the community. **DESIGN:** Survey of common respiratory pathogens isolated from nasal discharges. **SETTING:** 117 childcare centres and kindergartens in metropolitan Melbourne between May and July

1991-1993 and 42 from sociodemographically matching suburbs in Sydney between May and July, 1993. **SUBJECTS:** Children aged six years and under with nasal discharge. **OUTCOME MEASURES:** Resistance to penicillins, erythromycin and tetracycline among isolates of *Haemophilus influenzae*, *Streptococcus pneumoniae*, *Moraxella* (*Branhamella*) *catarrhalis* and *Staphylococcus aureus*. **RESULTS:** A total of 2286 nasal discharge swabs were collected. Amoxicillin resistance was detected in 99 of 711 isolates of *H. influenzae* (13.9 per cent) and penicillin resistance in 781 of 834 isolates of *M. catarrhalis* (93.6 per cent), 342 of 375 isolates of *S. aureus* (91.2 per cent), and 30 of 781 isolates of *S. pneumoniae* (3.9 per cent). Of 86 strains of *H. influenzae* type b isolated, 20 (23.3 per cent) produced beta-lactamase. Penicillin resistance tended to become more common among isolates of *H. influenzae* and *S. pneumoniae* during the three-year period. **CONCLUSION:** Antibiotic resistance, mediated by beta-lactamase or altered penicillin-binding proteins, among respiratory pathogens carried by pre-school children was significant and possibly increasing. This highlights the impact of prescribed antibiotics in the community and the folly of prescribing the limited score of antibiotics for viral infections. Author.

Ceftibuten vs. penicillin V in group A beta-hemolytic streptococcal pharyngitis. Members of the Ceftibuten Pharyngitis International Study Group. Pichichero, M. E., Mclinn, S. E., Gooch, W. M. 3rd, Rodriguez, W., Goldfarb, J., Reidenberg, B. E. University of Rochester Medical Center, NY 14642, USA. *Pediatric Infectious Diseases Journal* (1995) July, Vol. 14 (7 Suppl), pp: S102-7.

The efficacy and safety of a 10-day course of ceftibuten oral suspension (9 mg/kg once daily) were compared with those of penicillin V (25 mg/kg/day in three divided doses) in children three to 18 years old treated for symptomatic pharyngitis and scarlet fever caused by group A beta-hemolytic streptococci (*Streptococcus pyogenes*). The study was prospective, randomized, multicentre and investigator-blinded; patients were randomized in a 2:1 ratio (ceftibuten:penicillin V). Overall clinical success (cure/improvement) at the primary end point of treatment (five to seven days post-therapy) was achieved in 97 per cent (285 of 294) of ceftibuten-treated patients vs. 89 per cent (117 of 132) of penicillin V-treated patients ($P < 0.01$). Elimination of infecting streptococci five to seven days post-therapy was achieved in 91 per cent (267 of 294) of ceftibuten-treated patients vs. 80 per cent (105 of 132) of penicillin V-treated patients ($P < 0.01$). A significant rise in anti-streptolysin O or anti-DNase B was observed in approximately 30 per cent of patients in both treatment groups. No patient developed rheumatic fever or nephritis. Treatment-related adverse events were similar between the two groups; mild vomiting (two per cent) was most frequently reported. These data suggest that once daily ceftibuten is as safe as and more effective than three times daily penicillin V for the treatment of group A beta-hemolytic streptococcal pharyngitis. Author.

Head and neck cancer: detection of recurrence with PET and 2-(F-18) fluoro-2-deoxy-D-glucose. Lapela, M., Grenman, R., Kurki, T., Joensuu, H., Leskinen, S., Lindholm, P., Haaparanta, M., Ruotsalainen, U., Minn, H. Department of Oncology and Radiotherapy, Turku University Central Hospital, Finland. *Radiology* (1995) October, Vol. 197 (1), pp: 205-11.

PURPOSE: To evaluate positron emission tomography (PET) with 2-(fluorine-18) fluoro-2-deoxy-D-glucose (FDG) in detection of suspected recurrence of head and neck cancer, and to compare visual, static, and kinetic analyses of the tracer uptake. **MATERIALS AND METHODS:** Seventeen dynamic FDG PET studies were performed in 15 patients. The images were interpreted visually, and the uptake was quantitated as the standardized uptake value (SUV) and as the regional FDG metabolic rate. **RESULTS:** Sensitivity of blinded visual interpretation of the PET images for the presence of malignancy was 88 per cent and specificity was 86 per cent. Malignant lesions accumulated significantly more FDG than benign lesions ($P = 0.008$ for SUVs, $P = 0.002$ for regional metabolic rates). When maximum uptake of FDG in the benign lesions was used as a threshold, the sensitivity of SUV analysis for malignancy was 75 per cent and that of regional metabolic rates was 86 per cent. **CONCLUSION:** Detection of recurrent head and neck cancer is feasible with FDG PET. Quantitation of FDG uptake assists in correct interpretation of the PET images. Author.

Effect of terfenadine and budesonide on nasal symptoms, olfaction, and nasal airway patency following allergen challenge. Hilberg, O. Institute of environmental and Occupational Medicine, University of Aarhus, Denmark. *Allergy* (1995) August, Vol. 50 (8), pp: 683-8.

The study investigated the effect of the oral H1-blocker terfenadine on allergen challenge in subjects with nasal allergy in comparison with the topical steroid, budesonide. A randomized, placebo-controlled, double-blind, crossover study with three experimental days was performed outside the pollen season. Seventeen nonsmokers with hay fever (symptoms, positive skin prick test, and RAST against timothy) were treated for 14 days before each experimental day, where the response to nasal challenge with four different concentrations of timothy was measured every 15 min for six hours. The nasal cavity dimensions were measured by acoustic rhinometry and the olfactory function as the threshold for the sense of smell of butanol. Nasal symptoms were determined by questionnaires. Both terfenadine and budesonide dry powder had an effect on the hay fever symptoms during nasal pollen challenge. Terfenadine was more efficient than budesonide against histamine-mediated symptoms such as sneezing and itching. Budesonide increased nasal airway dimensions better than terfenadine ($P < 0.01$). A marked effect of budesonide was seen one to two hours after challenge, suggesting an effect on 'early late phase' reaction in the nose. In 7 of 17 subjects, a significant ($P < 0.05$) improvement of olfactory function after budesonide treatment was seen. In conclusion, topical steroid (budesonide) is superior to antihistamine (terfenadine) in treatment of nasal congestion in hay fever, especially for the postchallenge reaction, and may, in some cases, relieve the decreased sense of smell during pollen challenges. Author.

The safety of orotracheal intubation in patients with unstable cervical spine fracture or high spinal cord injury. Shatney, C. H., Brunner, R., Nguyen, T. Q. Department of Surgery, University of Florida Health Sciences Center, Jacksonville, USA. *American Journal of Surgery* (1995) December, Vol. 170 (6), pp: 676-9; discussion 679-80.

BACKGROUND: The potential merits and dangers of orotracheal and nasotracheal intubation in patients with injury to the cervical spine or spinal cord continue to be debated. To address this issue, a prospective study was conducted at a level one trauma centre in patients with respiratory embarrassment and either or both of these injuries. **MATERIALS AND METHODS:** Over a seven-year period, all such patients underwent neurologic examination by a trauma surgeon on arrival at the trauma centre, immediately after endotracheal intubation, and at frequent intervals throughout hospitalization. Cervical immobilization was maintained manually during endotracheal intubation. When necessary, patients were sedated or paralyzed with short-acting pharmacologic agents. **RESULTS:** During the study period, there were 81 patients with 98 cervical vertebral body fractures, but without evidence of spinal cord injury on initial examination. Sixty-seven patients (83 per cent) were legally intoxicated, and 12 patients had closed head injury. Endotracheal intubation was performed in 26 patients with unstable fractures, and 22 patients were intubated via the oral route. No patient manifested a subsequent neurologic deficit. Sixty-nine additional patients presented with high spinal cord injury; 16 had no cervical spine fracture, and 53 patients had 61 fractures of the cervical vertebrae. Sixty patients (87 per cent) were intoxicated, and eight patients had closed head injury. Endotracheal intubation was performed in 29 of these patients, and 26 patients were intubated via the oral route. No patient experienced further neurologic deficit following endotracheal intubation. **CONCLUSION:** In trauma victims with or at high risk of cervical spinal cord injury, orotracheal intubation is a rapid, safe means of achieving airway control. Author.

Hodgkin's disease of Waldeyer's ring. Clinical and histoimmunophenotypic findings and association with Epstein-Barr virus in 16 cases. Kapadia, S. B., Roman, L. N., Kingma, D. W., Jaffe, E. S., Frizzera, G. Department of Otolaryngic Pathology, Armed Forces Institute of Pathology, Washington, D.C., USA. *American Journal of Surgical Pathology* (1995) December, Vol. 19 (12), pp: 1431-9. Waldeyer's ring is an uncommon, rarely reported primary site for Hodgkin's disease. We report a series of 16 such cases culled from the files of the Armed Forces Institute of Pathology and the

National Cancer Institute. The patients' median age was 41 years (range, 14-74), and they presented with airway obstruction or unilateral tonsillar enlargement. The disease was localized to the Waldeyer's ring (stage I) in 46 per cent of patients and extended to the cervical lymph nodes (stage II) in 39 per cent and to the spleen (stage III) in 15 per cent. Local radiation therapy, with or without chemotherapy, obtained a complete response in all but two patients. There was local recurrence in one patient and distant spread in three others. All patients for whom follow-up is available are alive without evidence of disease at nine to 216 months (median, 20 months) except two who died of widespread Hodgkin's disease, and two others who died of other causes. Histologically, eight cases were classified as mixed cellularity type (50 per cent), four as nodular sclerosis (25 per cent), and one as lymphocyte predominance, nodular (LPn; 6.3 per cent); three others that showed interfollicular involvement were unclassified (18.7 per cent). The Reed-Sternberg (RS) and atypical mononuclear cells in most cases of nodular sclerosis had the classic immunophenotype (CD45-, CD20- and/or CD45RO-, CD15+ and/or CD30+). In the single case of LPn, they were of B-cell lineage (CD45+, CD20+, CD45RO-, CD15-, CD30-). In situ hybridization performed on routinely processed sections revealed Epstein-Barr virus (EBV) EBER1 mRNA in RS cells of eight of 12 cases studied (67 per cent) only in mixed cellularity and nodular sclerosis, but not in LPn. We conclude that, however rarely, Hodgkin's disease of typical morphology and immunophenotype can originate in Waldeyer's ring. The incidence of EBV detection in the RS cells in our study is greater than that usually seen in nodal Hodgkin's disease in the United States. The greater prevalence of EBV-related Hodgkin's disease at this site is probably a reflection of the fact that the Waldeyer's ring is a reservoir for EBV. Author.

Risk of otitis externa after swimming in recreational fresh water lakes containing *Pseudomonas aeruginosa*. van Asperen, I. A., de Rover, C. M., Schijven, J. F., Oetomo, S. B., Schellekens, J. F., van Leeuwen, N. J., Colle, C., Havelaar, A. H., Kromhout, D., Sprenger, M. W. National Institute of Public Health and Environmental Protection, Bilthoven, Netherlands. *British Medical Journal* (1995) November 25, Vol. 311 (7017), pp: 1407-10. **OBJECTIVE:** To determine whether an outbreak of otitis externa was due to bathing in recreational fresh water lakes and to establish whether the outbreak was caused by *Pseudomonas aeruginosa* in the water. **DESIGN:** Matched case-control study. **SETTING:** The Achterhoek area, the Netherlands. **SUBJECTS:** 98 cases with otitis externa and 149 controls matched for age, sex and place of residence. **MAIN OUTCOME MEASURES:** Odds ratios for type of swimming water and frequency of swimming; presence of *P. aeruginosa* in ear swabs and fresh water lakes. **RESULTS:** Otitis externa was strongly associated with swimming in recreational fresh water lakes in the previous two weeks (odds ratio 15.5 (95 per cent confidence interval) 4.9 to 49.2) compared with non-swimming). The risk increased with the number of days of swimming, and subjects with recurrent ear disease had a greatly increased risk. The lakes met the Dutch bathing water standards and those set by the European Commission for faecal pollution in the summer of 1994, but *P. aeruginosa* was isolated from all of them, as well as from the ear swabs of 78 (83 per cent) of the cases and three (four per cent) of the controls. **CONCLUSIONS:** Even when current bathing water standards are met, swimming can be associated with a substantial risk of otitis externa because of exposure to *P. aeruginosa*. People with recurrent ear disease should take special care when swimming in waters containing *P. aeruginosa*. Author.

Dysphagia after pharyngolaryngeal cancer surgery. Part I: Pathophysiology of postsurgical deglutition. Walther, E. K. Department of Otorhinolaryngology, Head and Neck Surgery, University of Bonn, Germany. *Dysphagia* (1995) Fall, Vol. 10 (4), pp: 275-8.

Eighty-one patients were examined after laryngopharyngeal cancer surgery with a sequential computer manometry system-using 4-channel-pressure probes. The general swallowing coordination is neither a matter of the oropharyngeal pressure thrust nor of the pharyngeal transit time, but mainly depends on swallowing initiation. The points of interest are both the pharyngeal inlet and outlet. The topographic correlates are the base of the tongue and the upper esophageal sphincter (UES).

Resections of the base of the tongue lead to a decrease of volume available for pressure generation, thus reducing the tongue driving force. The swallowing reflex is uncoordinated resulting in dyskinesia of the UES. Compensation may be achieved with a stronger oropharyngeal thrust and/or repeated swallows. Distal resections alter the pharyngoesophageal segment so that a functional obstruction results, combined with lower pressure amplitudes in the hypopharynx, reducing the pressure gradient necessary for bolus flow. This increasing resistance can be overcome by higher propulsive forces in base of the tongue region. In case of additional lingual defects, deglutition is subject to decompensation, highlighting the major role of the tongue as a pressure generator for bolus passage. Author.

Dysphagia after pharyngolaryngeal cancer surgery. Part II: Implications for reconstructive procedures. Herberhold, C., Walther, E. K. Department of Otorhinolaryngology, Head and Neck Surgery, University of Bonn, Germany. *Dysphagia* (1995) Fall, Vol. 10 (4), pp: 279-81.

In the base of the tongue region, reconstructive procedures have to provide more bulky-tissue coverage (i.e., myocutaneous flaps) in order to avoid cranial release of pressure and to bring about swallowing initiation. Resections of the pharyngoesophageal (PE) segment cause circular defects, always affecting the sphincter and necessarily relaxation, thus reducing the hypopharyngeal suction pump. The resistance to bolus flow, therefore, is generally increased but can be compensated by a stronger tongue driving force. In addition to the functional obstruction, special attention is called to the growing lumen discontinuity between the wide pharynx and the narrow esophagus. Plastic reconstructions, therefore, have to compensate for different lumina distally. Following ablative surgery in the upper esophageal sphincter region, a softer and smoother tissue coverage is warranted in order to facilitate bolus transfer to a passive bolus flow if necessary. For that purpose, a new myofascial pectoralis flap was designed based on morphometric investigations and postmortal selective injection studies. In this flap, the bulky muscle mass is separated from just a vascularized, thin fascia-muscle layer. The donor site is covered with the remaining bulky muscle-skin complex left intact. The fascial flap covers defects where a soft lining is required and replaces the PE segment as a tubed neopharynx. Histologic specimens show a reepithelization with local mucous membrane from the anastomotic site to the fascial surface. The resistance to bolus flow is reduced, thus alleviating the tongue driving force, which is increased for compensation in any case. Author.

Auditory evoked potentials in Down's syndrome. Diaz, F., Zuron, M. Facultad de Psicología, Departamento de Psicología Clínica e Psicobiología, Universidad de Santiago de Compostela, Spain. *Electroencephalography and Clinical Neurophysiology* (1995) November, Vol. 96 (6), pp: 526-37.

Short-, middle- and long-latency auditory evoked potentials (SAEPs, MAEPs and LAEPs) were examined in 12 subjects with Down's syndrome and in 12 age-matched normal subjects. In comparison with the normal subjects, Down subjects showed shorter latencies for SAEP peaks II, III, IV and V (and correspondingly shorter interpeak intervals I-II and I-III) so long as stimulus intensity was at least 45 dB SL. The MAEP peak Na had a longer latency in Down subjects than in normal subjects, but not the Pa latency. In passive oddball experiments for LAEPs, the latencies of all components from N1 to P3 were progressively longer in Down subjects, and the N2-P3 amplitude increased slightly between the first and fourth blocks of stimuli (whereas in the normal subjects it decreased). These alterations in auditory evoked potentials, which may correlate with cerebral alterations in organization and responsiveness responsible for deficient information processing, may constitute an electrophysiological pattern that is characteristic of Down's syndrome. Author.

Juvenile hyaline fibromatosis. Shehab, Z. P., Raafat, F., Proops, D. W. Department of Otorhinolaryngology, Children's Hospital, Birmingham, UK. *International Journal of Pediatric Otorhinolaryngology* (1995) October, Vol. 33 (2), pp: 179-86.

A case of juvenile hyaline fibromatosis in a seven-year-old Asian boy is presented. This autosomal recessive inherited condition has not been described in the otorhinolaryngology literature before. We demonstrate the benefits surgical intervention, for treatment of

gingival hypertrophy, can bring to the patient and outline the other features of this rare condition. The literature on juvenile hyaline fibromatosis and infantile systemic hyalinosis is also reviewed. Author.

Bifid epiglottis syndrome. Sturgis, E. M., Howell, L. L. Department of Otolaryngology/Head and Neck Surgery, Tulane University Medical Center, New Orleans, LA 70112, USA. *International Journal of Pediatric Otorhinolaryngology* (1995) October, Vol. 33 (2), pp: 149–57.

True bifid epiglottis is an extremely rare laryngeal anomaly, which usually presents in the neonate with symptoms of aspiration and/or airway obstruction. Management is generally supportive observation as the symptoms lessen with age, but rarely tracheotomy is required for airway obstruction. Bifid epiglottis occurs in a syndromic picture with associated anomalies, especially polydactyly, cleft palate and retro/micrognathia but a significant number will have endocrine, gastrointestinal and genitourinary abnormalities. A case of true bifid epiglottis is presented and the literature is reviewed on the subject. Author.

Treatment of experimental acute otitis media with ibuprofen and ampicillin. Diven, W. F., Evans, R. W., Alper, C., Burckart, G. J., Jaffe, R., Doyle, W. J. Department of Pathology, University of Pittsburgh School of Medicine, PA, USA. *International Journal of Pediatric Otorhinolaryngology* (1995) October, Vol. 33 (2), pp: 127–39.

The efficacy of concurrent treatment of experimental acute otitis media with ibuprofen and ampicillin was evaluated in chinchillas with respect to clearance of the effusion and resolution of mucosal inflammation. Sixty-four chinchillas were infected with *Streptococcus pneumoniae* and randomly assigned to treatment with either IM ampicillin (control) or ampicillin plus ibuprofen (experimental) beginning on day 2 post inoculation. On days 3, 6, 9 and 12, eight animals from each group were killed, effusions recovered for biochemical assay and the right middle ears prepared for histological study. Between group differences in the number of ears with effusion and effusion volume were not statistically significant. Mucosal thickness and the frequencies of ears with histopathological signs of inflammation were significantly less in the experimental group when compared to the control group. Differences in the effusion concentrations of total protease, three of four hydrolytic enzymes and free fatty acids favouring the experimental group were observed at the six, nine and 12 day endpoints. Also, at those times the level of the three measured products of the cyclooxygenase pathway were less in the experimental group. These results suggest that the addition of ibuprofen to ampicillin for the treatment of acute otitis media decreases production of select eicosonoids, reduces mucosal inflammation and alters the course of the disease in this model of bacterial infection. Author.

Effect of six-hour exposure to nitrogen dioxide on early-phase nasal response to allergen challenge in patients with a history of seasonal allergic rhinitis. Wang, J. H., Devalia, J. L., Duddle, J. M., Hamilton, S. A., Davies, R. J. Department of Respiratory Medicine and Allergy, St Bartholomew's Hospital, London. *Journal of Allergy and Clinical Immunology* (1995) November, Vol. 96 (5 Pt 1), pp: 669–76.

BACKGROUND: Recent studies have suggested that exposure to air pollutants may enhance the airway responsiveness of susceptible individuals to inhaled allergen. **METHODS:** To investigate the effect of exposure to nitrogen dioxide (NO₂) on nasal airways resistance (NAR) and inflammatory mediators in nasal lavage fluid, eight subjects with a history of seasonal allergic rhinitis, who were tested out of season, were exposed in a randomized single-blind, crossover study to either air or 400 ppb NO₂ for six hours. The changes in NAR and eosinophil cationic protein (ECP), mast cell tryptase (MCT), neutrophil myeloperoxidase (MPO), and interleukin-8 (IL-8) in nasal lavage fluid before and after exposure were evaluated. Another group of eight subjects with a history of seasonal allergic rhinitis were also randomized to exposure to air or 400 ppb NO₂ for six hours and then challenged with allergen, before evaluation for changes in NAR and changes in ECP, MCT, MPO and IL-8 in nasal lavage fluid. **RESULTS:** Exposure to air or NO₂ did not alter either NAR or the levels of ECP, MCT, MPO, or IL-8 in nasal lavage fluid. Allergen challenge after exposure to both air and NO₂

significantly ($P < 0.05$) increased levels of MCT, but not MPO and IL-8 in the nasal lavage fluid. In addition, allergen challenge after exposure to NO₂ but not air, significantly increased levels of only ECP in nasal lavage fluid ($P < 0.05$). **CONCLUSIONS:** These results suggest that acute exposure to NO₂ at concentrations found at the curbside in heavy traffic during episodes of pollution, may 'prime' eosinophils for subsequent activation by allergen in individuals with a history of seasonal allergic rhinitis. Author.

Dental, visual, auditory and olfactory complications in Paget's disease of bone. Wheeler, T. T., Alberts, M. A., Dolan, T. A., McGorry, S. P. Department of Orthodontics, University of Florida College of Dentistry, Gainesville 32610-0444, USA. *Journal of the American Geriatric Society* (1995) December, Vol. 43 (12), pp: 1384–91.

OBJECTIVE: To determine the prevalence of dental problems in Paget's patients and in a control population without Paget's disease. The relationship of localization of bony involvement of Paget's disease with the prevalence of dental, auditory, visual, and smell changes is examined. **DESIGN:** Cross-sectional national survey. **PARTICIPANTS:** Four hundred and ninety-eight subjects with Paget's disease were generated randomly from the mailing list of the Paget Foundation. **INTERVENTION:** Each subject was sent a cover letter, two questionnaires, and a stamped, addressed return envelope. One questionnaire contained questions specific for the individual with Paget's disease. Subjects were asked to give the other questionnaire, which contained the same questions except for those asking about the specifics of Paget's disease, to an unaffected spouse or a similar aged friend. **MEASUREMENTS:** All subjects were asked about their age, gender, race, educational level, income, living situation, chronic medical conditions, self-rating of their general physical and dental health, the number of teeth present, and the presence of dental, auditory, visual, and olfactory problems. Paget's subjects were also asked to indicate which bones were affected. **RESULTS:** Paget's disease subjects assessed their oral health to be poorer than the controls. Paget's subjects were more likely to report pain when opening the mouth and were more likely to have had dental extractions. A significantly higher percentage of Paget's individuals with facial or maxillo-mandibular involvement reported having heart trouble. Paget's individuals with skull, facial or maxillo-mandibular involvement were more likely to report a change in their hearing, sight, and smell than Paget's subjects without involvement of the craniofacial complex. Dental problems were reported by 93 per cent of those Paget's subjects with maxillo-mandibular involvement, compared with only 10 per cent for those with skull involvement only or involvement at sites distant to the craniofacial complex. **CONCLUSIONS:** Patients with Paget's disease of bone involving facial or maxillo-mandibular parts of the skeleton have a higher prevalence of change in hearing, sight, smell, and dental problems. We also have found an association of heart disease in patients who have involvement of facial or maxillo-mandibular bones. Author.

Proximal-to-distal facial amplitude ratios as predictors of facial nerve function after acoustic neuroma excision. Taha, J. M., Tew, J. M. Jr., Keith, R. W. Department of Neurosurgery, University of Cincinnati College of Medicine, Ohio, USA. *Journal of Neurosurgery* (1995) December, Vol. 83 (6), pp. 994–8.

Electrophysiological studies (for example, electroneurography, nerve action potentials, absolute amplitudes of the muscle compound nerve action potentials, absolute amplitudes of the muscle compound action potentials, and stimulation thresholds) do not accurately predict facial nerve function after the excision of acoustic neuromas. To eliminate individual nerve variability, the authors measured the ratio of the amplitudes of muscle compound action potentials produced by stimulating the facial nerve at the brainstem proximally and at the internal auditory meatus near the transverse crest distally after total tumour excision in 20 patients. The mean tumour size was 36 mm. The facial nerves were anatomically intact in all patients after tumour excision. The follow-up period ranged from 14 to 28 months. Facial nerve outcome was determined by a modified House-Brackmann grading scale. Initial facial nerve function was measured at days four to seven post-operatively, and final function was the grade at last follow-up. The following results were obtained: all patients with proximal-to-distal amplitude ratios greater than 2:3 had Grade III or better initial function and

Grade I final facial nerve function; 90 per cent of patients with amplitude ratios between 1:3 and 2:3 had Grade III or worse initial facial nerve function, and 100 per cent of these patients had grade III or better final facial nerve function; all patients with amplitude ratios less than 1:3 had Grade IV or worse initial and final facial nerve function. The authors conclude that the proximal-to-distal amplitude ratios after acoustic neuroma excision can accurately predict post-operative facial nerve function. Author.

Ultrasonographic anatomy of the anterior neck: implications for tracheostomy. Bertram, S., Emschoff, R., Norer, B. Department of Oral and Maxillofacial Surgery, University of Innsbruck, Austria. *Journal of Oral and Maxillofacial Surgery* (1995) December, Vol. 53 (12), pp: 1420–4.

PURPOSE: Tracheostomy is the preferred intervention for surgical establishment of an upper airway in the treatment of certain elective maxillofacial procedures. Complication rates associated with surgical tracheostomy are largely related to the restricted possibilities in diagnosis of anatomic variations. Therefore, endoscopic-guided tracheostomy is increasingly being used to enhance precision and safety. The purpose of this study was to assess the ultrasonographic anatomy of the anterior neck with regard to the performance of tracheostomy. **PATIENTS AND METHODS:** Fifty patients underwent ultrasonographic investigation to analyze the relationship of anatomic structures lying in the immediate vicinity of the tracheostomy site. **RESULTS:** The

data presented demonstrate the feasibility and advantage of preoperative ultrasonography to visualize the structures of the infrahyoid region. **CONCLUSION:** Preoperative ultrasonography may be of great importance in diagnosing individual anatomic variations at the site of tracheostomy and in avoiding complications. Author.

Otitis media in early childhood and cognitive, academic, and behaviour outcomes at 12 years of age. Roberts, J. E., Burchinal, M. R., Clarke-Klein, S.M. Frank Porter Graham Child Development Centre, University of North Carolina at Chapel Hill 27599-8180, USA. *Journal of Pediatric Psychology* (1995) October, Vol. 20 (5), pp: 645–60.

Examined the association between otitis media with effusion (OME) during the first three years of life and cognitive and academic performance and behavioural outcomes at 12 years of age in 56 socioeconomically disadvantaged children attending a research childcare program. OME history was prospectively documented from birth through three years during well and illness periods. Standardized tests of intelligence and academic achievement and measures of behaviour were administered when children were 12 years of age. OME during early childhood was not related to intellectual performance, academic achievement, behaviour, or attention. Results do not support a long-term relationship between a history of OME and later developmental outcomes. Generalizations of these findings to other populations should be done cautiously. Author.