

## Abstract Selection

**Laryngeal oedema from a neck haematoma. A complication of internal jugular vein cannulation.** Randalls, B., Toomey, P. J. Southampton General Hospital. *Anaesthesia* (1990) Oct, Vol. 45 (10), pp. 850-2.

Laryngeal oedema occurred after formation of a neck haematoma after attempted internal jugular vein cannulation. This resulted in complete respiratory obstruction and respiratory arrest and it was impossible to ventilate her lungs manually or intubate her trachea. Oxygenation of the patient was only possible using transtracheal ventilation. Author.

**Tracheal insufflation of oxygen at low flow: capabilities and limitations.** Mackenzie, C. F., Barnas, G., Nesbitt, S. Department of Anesthesiology, University of Maryland Medical System, Baltimore 21201. *Anesthesia and Analgesia* (1990) Dec, Vol. 71 (6), pp. 684-90.

Tracheal insufflation of oxygen (TRIO) may provide temporary oxygenation for patients or sustain life in apneic mass casualties when conventional ventilatory techniques are not available or feasible. Logistically, minimum flows of TRIO ( $V_{min}$ ) are desirable for field use and to reduce barotrauma should airway obstruction occur. We carried out a feasibility study to determine the efficacy of  $V_{min}$  of TRIO delivered within 1 cm of the carina, in nine anesthetized and paralyzed dogs. Minimum flows of TRIO for these dogs of average weight (12 kg) was 91 ml/min. In six of the dogs  $V_{min}$  TRIO was continued and provided oxygenation for an average of 1.5 h compatible with subsequent resuscitation with conventional ventilation. However, PaCO<sub>2</sub> levels increased to mean values of 256 mm Hg in the 90 min. To determine what the effect of increased gas mixing was on gas exchange, we repeated  $V_{min}$  TRIO for 10 min in six of the dogs with and without high frequency oscillations superimposed on the TRIO flow. The oscillations (60 ml at 16.3 Hz) increased carbon dioxide excretion but significantly impaired oxygenation. In completely apneic animals, TRIO at low flow delivered by cricothyroidotomy may be useful as an emergency procedure when upper airway obstruction limits the use of other airway management techniques. However, enhancement of gas mixing during low-flow TRIO impairs oxygenation, so that higher flows would be required when respiratory efforts occur. Author.

**Occipital condyle fracture presenting as retropharyngeal hematoma.** Mariani, P. J. Department of Critical Care and Emergency Medicine, SUNY Health Science Center, Syracuse 13210. *Annals of Emergency Medicine* (1990) Dec, Vol. 19 (12), pp. 1447-9.

Reported is the case of a 30-year-old male motorcycle accident victim who was found on plain cervical-spine radiography to have prevertebral soft-tissue swelling. Although subsequent computed tomography demonstrated no cervical-spine fracture, it did reveal a fracture of one occipital condyle. The mechanism, diagnosis, and treatment of occipital condyle fractures are reviewed, as is the ligamentous and fascial anatomy of the cervicocranium. Dissection of fracture hematoma inferiorly along vertically oriented tissue planes is hypothesized as the pathogenesis of our patient's retropharyngeal hematoma. In addition to being a sign of potential cervical-spine injury, post-traumatic prevertebral soft-tissue swelling may also indicate occipital condyle fracture. To avoid overlooking such fractures, computed tomography undertaken to investigate upper cervical-spine prevertebral soft-tissue swelling should always include slices up to the level of the basal skull so as to visualize the condyles. Author.

**Toxic streptococcal syndrome.** Gallo, U. E., Fontanarosa, P. B. Department of Emergency Medicine, Northeastern Ohio Universities College of Medicine, Akron City Hospital 44309. *Annals of Emergency Medicine* (1990) Nov, Vol. 19 (11), pp. 1332-4.

The streptococcal toxic shocklike syndrome is a recently recognized, multisystem disorder that shares many of the features of staphylococcal toxic shock syndrome, but is caused by toxins elaborated by group A beta-hemolytic *Streptococcus*. We describe a patient who fulfilled the major criteria for the clinical diagnosis of toxic shock syndrome (fever, hypotension, multisystem dysfunction, and diffuse macular erythroderma followed by desquamation) and who demonstrated serologic evidence suggesting streptococcal infection. In patients presenting with clinical findings consistent with a toxic shocklike syndrome, the emer-

gency physician should consider streptococcal infection as a potential etiology. Author.

**Hormonal changes after parabolic flight: implications on the development of motion sickness.** Drummer, C., Stromeyer, H., Riepl, R. L., Konig, A., Strollo, F., Lang, R. E., Maass, H., Rocker, L., Gerzer, R. Medizinische Klinik Innenstadt, Universität München, FRG. *Aviation, Space and Environmental Medicine* (1990) Sep, Vol. 61 (9), pp. 821-8. Twenty-two different humoral parameters including stress-, gastrointestinal- and volume-regulating hormones were measured before and within 45 min after parabolic flight maneuvers of 20 healthy adult subjects. We compared hormonal data of motion sickness-affected participants with those unaffected. Changes in cortisol and vasoactive intestinal peptide plasma levels were significantly different ( $p$  less than 0.002 and  $p$  less than 0.004) between the two groups with increasing plasma levels of both hormones during motion sickness but decreasing levels within the control group. Growth hormone and prolactin plasma levels increased by 400 per cent and 115 per cent within the motion sickness-affected group and to a smaller degree (120 per cent and 40 per cent increases, respectively) within the control group, while ACTH levels were almost unchanged within both groups. Pancreatic polypeptide and gastrin plasma levels as well as plasma levels of insulin and C-peptide were significantly decreased within both groups after the parabolic flight. Plasma renin, aldosterone, atrial natriuretic peptide and cyclic GMP levels were unchanged within the control group. Within the motion sickness-affected group, plasma renin and aldosterone levels were decreased and atrial natriuretic peptide levels increased after the flight. Humoral parameters of the thyroid gland were neither changed within the groups nor different between the groups. The present data confirm previous results that increases in plasma levels of certain stress hormones participate in motion sickness. Furthermore, increases in vasoactive intestinal peptide levels participate in motion sickness. These increases could explain some of the gastrointestinal symptoms in motion sickness and might serve as markers for a discrimination between regular stress and motion sickness. Author.

**Recruitment, follow-up and analysis times in clinical trials of cancer treatment: a case study.** Haybittle, J. L., Alcock, C. J., Fowler, J. F., Hopewell, J. W., Rezvani, M., Wiernik, G. MRC Cancer Trials Office, Cambridge, UK. *British Journal of Cancer* (1990) Oct, Vol. 62 (4), pp. 687-91.

A study has been made of the way in which the number of events available for analysis in a clinical trial was dependent on the recruitment period, the maximum follow-up time on individual patients and the length of time between the start of the trial and its analysis. The events considered were deaths, local recurrences and late radiation effects on normal tissue in patients treated for cancer of the laryngo-pharynx by two different fractionation regimes. The relationship is demonstrated between the number of events and the 95 per cent confidence intervals that can be placed on differences between results in the two arms of the trial. It was found, in this particular trial, that no significant improvement in precision was gained by following up patients beyond five years or carrying out the analysis later than two years after the end of recruitment. The results are discussed in the context of the initial design of clinical trials, particularly those in which the aim is to test therapeutic equivalence. Author.

**Successful replantation of nose by microsurgical technique, and review of literature.** Niazi, Z., Lee, T. C., Eadie, P., Lawlor, D. National Plastic Surgery and Burns Unit, St James's Hospital, Dublin, Eire. *British Journal of Plastic Surgery* (1990) Sep, Vol. 43 (5), pp. 617-20.

We present a case of total amputation of a major portion of the nose of a 10-year-old boy, which was successfully replanted by microsurgical technique. A 489-year review of the literature revealed the rarity of successful nasal replacement following amputation. Author.

**Buccal mucosal flaps in nasal reconstruction.** Soutar, D. S., Elliot, D., Rao, G. S. West of Scotland Regional Plastic Surgery Unit, Can-

niesburn Hospital, Glasgow. *British Journal of Plastic Surgery* (1990) Sep, Vol. 43 (5), pp. 612–6.

Buccal mucosal flaps provide a simple and effective method of replacing nasal mucosal lining. This technique has been used in 15 patients requiring reconstruction of full thickness defects of the lateral nasal wall and tip of nose, in combination with a variety of local flaps for skin cover. The buccal mucosal flap is of particular value in reconstructing the common defect of the lower lateral nasal wall and alar rim where more bulky reconstructions often distort the airway. Author.

**Osteosarcoma of the maxilla in Hong Kong Chinese postirradiation for nasopharyngeal carcinoma. A report of four cases.** Dickens, P., Wei, W. I., Sham, J. S. Department of Pathology, University of Hong Kong. *Cancer* (1990) Nov 1, Vol. 66 (9), pp. 1924–6.

Postirradiation osteosarcoma of the maxilla was seen in four Hong Kong Chinese patients treated for nasopharyngeal carcinoma. These cases represent four of 42 (9 per cent) cases of osteosarcoma at all sites in this institution during the period 1979 to 1989, when more than 1,000 patients were treated with radiotherapy for nasopharyngeal carcinoma. The latent periods varied from eight to 11 years from completion of radiotherapy treatment to development of osteosarcoma. The radiation dosage varied from 6,000 to 6,280 cGy in three of the patients. These cases fit the criteria for diagnosis of postirradiation sarcomas. Maxillary osteosarcomas after irradiation for nasopharyngeal carcinoma do not appear to have been described. The very high incidence of nasopharyngeal carcinoma (for which radiotherapy is the treatment of choice) in Hong Kong Chinese would make the occurrence of such tumors more likely in Hong Kong, although the small risk does not contraindicate the use of radiation in the treatment of nasopharyngeal carcinoma in view of its well-documented efficacy. Author.

**Nasal lymphoma. A retrospective analysis of 60 cases.** Liang, R., Todd, D., Chan, T. K., Chiu, E., Choy, D., Loke, S. L., Ho, F. C. University Department of Medicine, Queen Mary Hospital, Hong Kong, China. *Cancer* (1990) Nov 15, Vol. 66 (10), pp. 2205–9.

Sixty cases of nasal lymphomas were reviewed. There were 42 men and 18 women. The median age was 49 years. The histologic types were low grade in four cases, intermediate grade in 33, high grade in seven, and unclassifiable in 16. Thirteen cases had features of polymorphic reticulosis. The immunophenotype was available in 18 cases and a majority of 67 per cent of them were T-cell. Forty-one of them (68 per cent) had clinically localized (Stage I and II) disease which often spread locally to neighbouring tissues and they presented predominantly with nasal symptoms. Nasal lymphoma appeared to carry a poor prognosis. Although our patients with clinically localized disease had significantly better prognosis than those with advanced disease, the five-year survival of Stage I and II patients was only 55 per cent. Chemotherapy did not appear to be more effective than radiotherapy alone in preventing relapses but the patient number was too small to allow a firm conclusion to be made. Patients with advanced disease had even poorer prognosis with a five-year survival of only 17 per cent. Innovative therapy has to be developed for these patients. Author.

**Multiple spinal metastases from paraganglioma.** North, C. A., Zinreich, E. S., Christensen, W. N., North, R. B. Department of Radiation Oncology, Johns Hopkins University School of Medicine, Baltimore, MD 21205. *Cancer* (1990) Nov 15, Vol. 66 (10), pp. 2224–8. Isolated vertebral body metastases from paraganglioma are exceedingly rare. They have been reported to occur in the presence of active primary tumor in the neck, local recurrence, or widespread metastases. A unique case of carotid body tumor (paraganglioma) is reported with the following features: (1) multiple vertebral body metastases (C6, T9, and L3) presenting with spinal cord compression, and no evidence of local recurrence or other metastatic disease; (2) absence of mitoses on the original specimen or the metastatic deposit; and (3) a prolonged interval (nine years) to the development of symptomatic metastases. Author.

**Electrically evoked whole-nerve action potentials: data from human cochlear implant users.** Brown, D. J., Abbas, P. J., Gantz, B. Department of Speech Pathology and Audiology, University of Iowa, Iowa City 52242. *Journal of the Acoustical Society of America* (1990) Sep, Vol. 88 (3), pp. 1385–91.

This study describes a method for recording the electrically evoked, whole-nerve action potential (EAP) in users of the Ineraid cochlear implant. The method is an adaptation of one originally used by Charlet de Sauvage *et al.* (*Journal of the Acoustical Society of America* 73, 615–627 (1983)) in guinea pigs. The response, recorded from 11 subjects, consists of a single negative peak that occurs with a latency of approxi-

mately 0.4 ms. EAP input/output functions are steeply sloping and monotonic. Response amplitudes ranging up to 160 micro V have been recorded. Slope of the EAP input/output function correlates modestly (approximately 0.6–0.69) with results of tests measuring word recognition skills. The refractory properties of the auditory nerve were also assessed. Differences across subjects were found in the rate of recovery from the refractory state. These findings imply that there may be difference across subjects in the accuracy with which rapid temporal cues can be coded at the level of the auditory nerve. Reasonably strong correlations (approximately 0.74–0.85) have been found between the magnitude of the slope of these recovery curves and performance on tests of word recognition. Author.

**Neuropeptides and nasal secretion.** Baraniuk, J. N., Kaliner, M. A. National Heart and Lung Institute, London, England. *Journal of Allergy and Clinical Immunology* (1990) Oct, Vol. 86 (4 Pt 2), pp. 620–7.

Recent research has disclosed that neurotransmitters and neuropeptides released within the autonomic nervous system exert homeostatic control of nasal secretion. Although cholinergic and adrenergic influences have long been thought to be the predominant mechanisms, the nonadrenergic, noncholinergic responses may have more suitable, longer-lasting effects. Peptides from sensory nerves, such as calcitonin gene related peptide, substance P, and neurokinin A, may participate in axon response-mediated vasodilation and plasma extravasation. Substance P and gastrin releasing peptide may induce glandular secretion. Defensive responses to local mucosal injury may be amplified by axon response, which initiates these vascular and glandular reactions. Cholinergic effects are primarily responsible for mediating parasympathetic reflexes, but vasoactive intestinal peptide may regulate acetylcholine release, augment glandular secretory responses, and have a vasodilatory effect. In the sympathetic nervous system, neuropeptide Y probably functions as a long-acting vasoconstrictor. Integration of sympathetic and parasympathetic influence may regulate the normal nasal cycle, and sensory and parasympathetic defensive reflexes may respond to epithelial and mast cell stimulation. It is possible, then, that the pathophysiology of vasomotor rhinitis involves an exaggeration of these neural influences. Author.

**A multicenter trial of nedocromil sodium, 1 per cent nasal solution, compared with cromolyn sodium and placebo in ragweed seasonal allergic rhinitis.** Schuller, D. E., Selcow, J. E., Joos, T. H., Hannaway, P. J., Hirsch, S. R., Schwartz, H. J., Filley, W. V., Fink, J. N. Department of Pediatric Allergy, Immunology and Pulmonary Medicine, Geisinger Medical Center, Danville, PA 17822. *Journal of Allergy and Clinical Immunology* (1990) Oct, Vol. 86 (4 Pt 1), pp. 554–61.

This study was a double-blind, parallel-group study to evaluate a new medication, nedocromil sodium, 1 per cent, in comparison with placebo and cromolyn sodium, 4 per cent, for treatment of ragweed seasonal allergic rhinitis. Two hundred and thirty-three patients (aged 12 to 65 years) from eight centers were randomized to treatment, one spray per nostril, four times daily, with nedocromil sodium, cromolyn sodium, or matched placebo (80, 76, and 77 patients, respectively). All patients had at least a two-year history of ragweed seasonal allergic rhinitis. Treatment was for eight weeks during the ragweed season, and daily pollen counts were used to identify the peak three-week period. Clinic examinations were made before and after the one-week baseline and after one, three, five, and eight weeks of treatment. Rhinitis symptoms were recorded each day by the patients. Nedocromil sodium was more effective than placebo ( $p$  less than 0.05) in relieving symptoms as recorded by the patients. Cromolyn sodium was also more effective than placebo, but the difference was not usually significant. Similarly, the active treatments were both better than placebo for clinical parameters measured at visits and for global opinions of treatment, and more rescue therapy was used by the placebo-treated group. There was no significant difference between the two active treatments, but the trend throughout was in favor of nedocromil sodium. Our findings demonstrated nedocromil sodium to be at least as effective as an established therapy (cromolyn sodium) in reducing symptoms of rhinitis during the peak ragweed pollen season. Author.

**A placebo-controlled trial of immunotherapy with two extracts of Dermatophagoides pteronyssinus in allergic rhinitis, comparing clinical outcome with changes in antigen-specific IgE, IgG, and IgG subclasses.** McHugh, S. M., Lavelle, B., Kemeny, D. M., Patel, S., Ewan, P. W. Molecular Immunopathology Unit, University of Cambridge Clinical School, England. *Journal of Allergy and Clinical Immunology* (1990) Oct, Vol. 86 (4 Pt 1), pp. 521–31.

A double-blind, placebo-controlled trial of immunotherapy was con-

ducted in patients with *Dermatophagoides pteronyssinus* rhinitis. Thirty patients received an extract with a high content of Der p I (Pharmalgen), 20 received a conventional mite extract (Allpyral), and 30 patients received histamine chloride (placebo). Specific IgG and subclasses were measured before and after 3 and 12 months of treatment by RIA and/or ELISA, and specific IgE by RAST. Clinical outcome was assessed by skin prick tests, nasal challenge, visual analogue, and diary-card symptom and drug scores; from these findings, a clinical index was derived. An IgG response occurred only in the Pharmalgen-treated group: D. pter IgG and IgG1 increased by three months (p less than 0.05) and then plateaued to 12 months (p less than 0.05). IgG4 levels increased throughout treatment (p less than 0.05 and p less than 0.01), as did the IgG/IgE ratio. A subclass switch from IgG1 to IgG4 occurred. D. pter IgE rose at three months (p less than 0.05). Clinical improvement occurred at three and 12 months in the Pharmalgen-treated group only. Pretreatment levels of IgE, IgG1, or IgG4 did not predict clinical outcome. Our findings are compatible with the hypothesis that IgG subclasses may modulate antigen-IgE interactions, although the antibody response to this potent extract need not be causally related to improvement. Author.

**The role of antihistamines in otitis.** Fireman, P. Children's Hospital, Pittsburgh, PA 15213. *Journal of Allergy and Clinical Immunology* (1990) Oct, Vol. 86 (4 Pt 2), pp. 638-41.

Chronic and recurrent otitis media can manifest as otitis media with effusion. Both infection and eustachian tube obstruction (ETO) have been found to play an important role in its pathogenesis. ETO can be demonstrated during both early- and late-phase reactions in patients with allergic rhinitis after intranasal challenge with an allergen. Intranasal challenge with either histamine or prostaglandin D2 also provokes ETO, with the latter mediator perhaps more potent than the former. Middle ear effusions from patients with chronic or recurrent otitis media have been found to contain dramatically increased concentrations of histamine relative to the concentrations in their plasma. The development of nasal and eustachian tube obstruction in allergic rhinitis patients has been prevented by pretreatment with an antihistamine plus decongestant before intranasal challenge with pollen allergen. Investigations are currently under way to assess the effect of antihistamine pretreatment on nasal and eustachian tube obstruction in patients undergoing intranasal histamine challenge. Author.

**Nasal carriage of *Staphylococcus aureus*: correlation with hormonal status in women.** Winkler, J., Block, C., Leibovici, L., Faktor, J., Pitlik, S. D. Department of Medicine C, Beilinson Medical Center, Petah Tikva, Israel. *Journal of Infectious Diseases* (1990) Dec, Vol. 162 (6), pp. 1400-2.

In view of recent observations on hormone-microorganism interactions, a study of *Staphylococcus aureus* nasal carriage in relation to sex-hormone status was undertaken. Prospectively in 479 women attending a colposcopic clinic, hormonal status was assessed by determining the karyopyknotic index (KI) on smears stained by the Papanicolaou method. Rates of *S. aureus* nasal carriage were 29.3 per cent in premenopausal women and 21.9 per cent in postmenopausal women (p not significant). Carriage rates were significantly higher (p = 0.026,  $\chi^2$  7.32) for women with high KIs (40.7 per cent) than for those with intermediate and low KIs (27.03 per cent and 25.1 per cent, respectively). *S. aureus* nasal carriage also correlated independently and significantly with previous antibiotic use and the presence of insulin-treated diabetes mellitus. This preliminary observation confirms an association between levels of sex hormones as reflected by the KI and *S. aureus* nasal carriage rates. Author.

**Recurrence of acoustic neuroma as a malignant spindle-cell neoplasm. Case Report.** McLean, C. A., Laidlaw, J. D., Brownbill, D. S., Gonzales, M. F. Department of Anatomical Pathology, Royal Melbourne Hospital, Australia. *Journal of Neurosurgery* (1990) Dec, Vol. 73 (6), pp. 946-50.

A 75-year-old man presented with a right cerebellopontine angle tumor 11 months after complete macroscopic resection of a right acoustic neuroma. Histological examination of the recurrent tumor showed a malignant spindle-cell neoplasm with positive staining for S-100 protein. The patient had no stigmata of von Recklinghausen's disease. It is proposed that this recurrence represents progression from a benign to a malignant acoustic nerve-sheath tumor, an event that is extremely rare outside the clinicopathological context of neurofibromatosis. Author.

**Central adenoid cystic carcinoma of the mandible.** Brookstone, M. S., Huvos, A. G., Spiro, R. H. Memorial Sloan-Kettering Cancer Center, New York, NY 10021. *Journal of Oral and Maxillofacial Surgery* (1990) Dec, Vol. 48 (12), pp. 1329-33.

A patient with adenoid cystic carcinoma arising centrally within the mandible, a rare location for this malignant salivary gland tumor, is described. Current concepts regarding the etiology, diagnosis, histology, and treatment of central intramandibular salivary gland tumors are discussed and the literature is reviewed. Author.

**Speech, velopharyngeal function, and hearing before and after orthognathic surgery.** Vallino, L. D. Department of Speech Pathology, Hospital for Sick Children, Toronto, Ontario, Canada. *Journal of Oral and Maxillofacial Surgery* (1990) Dec, Vol. 48 (12), pp. 1274-81; discussion 1281-2.

Articulation, voice, resonance, hearing sensitivity, and middle ear function were examined in 34 patients before and three, six, nine, and 12 months after orthognathic surgery. Thirty of the 34 patients had articulation errors before surgery. Errors on the sibilants /s/ and /z/ occurred most frequently, followed by those on /j, zh, ch/ and /sh/. Errors were predominantly distortions with both visual and acoustic components. After surgery, articulation improved spontaneously in the absence of intervention. Most of the preoperative articulation errors were eliminated by three months postoperative, but, thereafter, a gradual decline was noted so that by 12 months, errors occurred on /s/ and /z/. Voice, resonance, velopharyngeal port area, and hearing sensitivity were not altered by surgery. This study suggests that severe skeletal malocclusions requiring surgical correction have deleterious effects on the patients' articulation of consonants and that surgical alteration leads to the correction of most of these errors. Author.

**Transcutaneous carbon dioxide pressure for monitoring patients with severe croup.** Franconi, S., Burger, R., Maurer, H., Uehlinger, J., Ghelfi, D., Muhlemann, C. Department of Pediatrics, University of Zurich, Switzerland. *Journal of Pediatrics* (1990) Nov, Vol. 117 (5), pp. 701-5.

In a prospective investigation of 17 children with severe croup, we analyzed the effect of epinephrine inhalations and mild sedation with chloral hydrate on transcutaneous carbon dioxide pressure (tcPCO<sub>2</sub>), pulse oximetry measurements, and croup scores. There was a highly significant reduction (p less than 0.001) in the tcPCO<sub>2</sub> values and croup scores after inhalation of epinephrine. The changes in the tcPCO<sub>2</sub> values correlated with the clinical findings. Mild sedation also significantly improved the croup scores but failed to influence the tcPCO<sub>2</sub> values. There was not statistically significant difference in pulse oximetry saturation, fraction of administered oxygen, heart rate, or respiratory rate before and after inhalation of epinephrine or chloral hydrate administration. Monitoring tcPCO<sub>2</sub> appears to be a reliable and objective tool for managing patients with upper airway obstruction, whereas croup scores may be misleading. Author.

**Evaluation of epiglottoplasty as treatment for severe laryngomalacia.** Marcus, C. L., Crockett, D. M., Ward, S. L. Division of Neonatology and Pediatric Pulmonology, Childrens Hospital, Los Angeles. *Journal of Pediatrics* (1990) Nov, Vol. 117 (5), pp. 706-10.

Six patients with severe laryngomalacia underwent epiglottoplasty. Four of these patients had life-threatening episodes of airway obstruction before surgery; of these, two had required tracheal intubation and one had required cardiopulmonary resuscitation. Two patients had failure to thrive and two had cor pulmonale. Patients had required a mean of two hospitalizations related to upper airway obstruction. We performed polysomnography during a daytime nap, both before and after epiglottoplasty, in all patients. Respiratory effort, arterial oxygen saturation, and end-tidal carbon dioxide pressure were monitored with continuous electrocardiograms and electrooculograms. All patients had abnormal polysomnograms preoperatively. Six patients had obstructive apnea, four had hypoxemia (arterial oxygen saturation less than 90 per cent while breathing room air), and four had hypoventilation (end-tidal carbon dioxide pressure greater than 45 mm Hg) before epiglottoplasty. Mean age ( $\pm$ SEM) at epiglottoplasty was 10.3 $\pm$ 5.3 months. No patients had surgical complications. An endotracheal tube was in place for 25 $\pm$ 7 hours postoperatively, and patients were discharged 4 $\pm$ 1 days postoperatively. Polysomnography performed 2.8 $\pm$ 1.0 months after surgery showed that all patients had improved. Two patients had residual, mild episodes of obstructive apnea, and one patient had mild hypoventilation and desaturation. No patient had further life-threatening events or required further hospitalizations after epiglottoplasty. We conclude that epiglottoplasty is an effective and safe treatment for a selected group of patients with severe laryngomalacia. Author.

**The relationship between communication problems and psychological difficulties in persons with profound acquired hearing loss.** Knutson, J.



F., Lansing, C. R. University of Iowa, Iowa City. *Journal of Speech and Hearing Disorders* (1990) Nov, Vol. 55 (4), pp. 656–64.

Communication strategies, accommodations to deafness, and perceptions of the communication environment by profoundly deaf subjects were correlated with indices of psychosocial adjustment to determine whether accommodations to deafness could play a role in the presence of psychological difficulties among deaf persons. Persons with postlingually acquired profound deafness were administered the Communication Profile for the Hearing Impaired (CPHI) and several standardized tests of psychological functioning and adjustment. Inadequate communication strategies and poor accommodations to deafness reported on the CPHI were associated with depression, social introversion, loneliness, and social anxiety. Limited communication performance at home and with friends was related to both social introversion and the experience of loneliness; perceived attitudes and behaviors of others correlated with depression as well as loneliness. In general, the pattern of correlations obtained suggests that specific communication strategies and accommodations to deafness, rather than deafness per se, may contribute to the presence of some psychological difficulties in individuals. Author.

**Spoken and written English errors of postsecondary students with severe hearing impairment.** McAfee, M. C., Kelly, J. F., Samar, V. J. Steuben-Allegheny Board of Cooperative Educational Services, Bath, NY. *Journal of Speech and Hearing Disorders* (1990) Nov, Vol. 55 (4), pp. 628–34.

This investigation compared the spoken and written English errors of 20 hearing-impaired postsecondary students with intelligible speech and poor English language. Error categories used to assess the language samples were function, content, and structure. Spoken and written performances were distinguished only by a greater number of function word errors in writing samples. A trend toward greater complexity in writing was also found. Implications for instruction are discussed. Author.

**Association of group C beta-hemolytic streptococci with endemic pharyngitis among college students.** Turner, J. C., Hayden, G. F., Kiselica, D., Lohr, J., Fishburne, C. F., Murren, D. Thomson Student Health Center, University of South Carolina, Columbia 29208. *Journal of the American Medical Association* (1990) Nov 28, Vol. 264 (20), pp. 2644–7.

Throat cultures were performed throughout two school years to determine whether non-group A beta-hemolytic streptococci (NGA BHS) could be isolated more frequently in 232 college students who had symptomatic pharyngitis than from 198 age-matched controls with non-infectious problems. Duplicate throat swabs were inoculated onto plates that contained sheep blood agar, one plate being incubated in a 5 per cent CO<sub>2</sub> atmosphere and the other in an anaerobic environment. The BHS were grouped using latex agglutination. Among the NGA BHS, only those from group C were isolated significantly more often among the patients compared with the controls (26 per cent vs 11 per cent). Quantitative colony counts of isolates of group C BHS had fever, exudative tonsillitis, and anterior cervical adenopathy significantly more frequently than did patients who had throat cultures that were negative for group C BHS. Group C BHS were epidemiologically associated with endemic pharyngitis in this college student population. Author.

**Changes in intracochlear and intracanalicular nerves after acoustic neuroma excision confirmed by magnetic resonance imaging.** Sekiya, T., Suzuki, S., Iwabuchi, T. Department of Neurosurgery, Hirosaki University School of Medicine, Japan. *Neurosurgery* 1990 Oct, Vol. 27 (4), pp. 587–91.

Postoperative magnetic resonance imaging findings related to the vestibulocochlear and facial nerves within the internal auditory canal were analyzed in acoustic neuromas. T1- and proton-weighted magnetic resonance images showed that the vestibulocochlear nerves distal to the internal auditory meatus increased in signal intensity after surgical intervention. These nerves were conspicuously enhanced after intravenous administration of gadolinium diethylene-triamine-pentaacetic acid. The preserved facial nerves were also markedly enhanced postoperatively. As a possible cause of these findings, we suggest operative disruption of the blood-nerve barrier with ensuing nerve edema, although the operative procedures were carefully carried out using a surgical microscope. The clinical significance of traumatic disruption of the blood-nerve barrier and subsequent nerve edema are discussed from the standpoint of preservation of cochlear nerve function. Author.

**Functional results of facial nerve suture after removal of acoustic neu-**

**rinoma: analysis of 25 cases.** Jaaskelainen, J., Pyykko, I., Blomstedt, G., Porras, M., Palva, T., Troupp, H. Department of Neurosurgery Helsinki University Central Hospital, Finland. *Neurosurgery* (1990) Sep, Vol. 27 (3), pp. 408–11.

The facial nerve is sometimes severed during the removal of acoustic neuromas, either intentionally to ensure complete removal, or unintentionally because of difficulties in identification. In such cases we have, if possible, sutured the nerve stumps microsurgically, either end to end or by use of an intervening nerve graft. We analyzed the outcome of 25 instances of facial nerve suturing in a series of 219 patients operated on for acoustic neuroma from 1979 to 1987. The first signs of recovery appeared at an average of 12 months, and there was continued improvement for several years. Recovery was graded from one to six. The anastomosis was successful in 24 of the 25 sutured nerves, in that at least some facial movement and tone were restored (Grade 5 or higher). In 11 of the 25 cases, facial appearance at rest and with movement was moderately good (Grade 2 or 3). A Grade 1 result, with no perceivable facial dysfunction, was never achieved. Typically, oral muscles showed the most improvement and frontal muscles the least. Facial appearance was better at rest than with movement, which was always complicated by some degree of synkinesis. Closure of the eye was so good in 13 of the 25 cases that neither tarsorrhaphy nor an eyelid spring was necessary. When the facial nerve is severed, intraoperative suture is recommended, because it provides a chance for moderately good restoration of facial appearance. Author.

**Management of chronic middle ear effusion with prednisone combined with trimethoprim-sulfamethoxazole.** Berman, S., Grose, K., Nuss, R., Huber-Navin, C., Roark, R., Gabbard, S. A., Bagnall, T. Department of Pediatrics, University of Colorado Health Sciences Center, Denver. *Pediatric Infectious Diseases Journal* (1990) Aug, Vol. 9 (8), pp. 533–8. Fifty-three patients were enrolled and evaluable in a randomized, double-blinded controlled clinical trial comparing prednisone for seven days plus trimethoprim-sulfamethoxazole (TMP/SMZ) for 30 days vs. TMP/SMZ alone in treating chronic middle ear effusion (MEE). Clearing of the effusion in both ears or in one when only one was involved was called complete resolution; clearing in one of two affected ears was called partial resolution. The outcomes two weeks after initiation of therapy of 26 patients initially treated with prednisone plus TMP/SMZ were complete resolution in 20, partial resolution in three, and unchanged in three. The outcomes in 27 patients initially treated with TMP/SMZ alone were complete resolution in eight, partial resolution in three, unchanged in 13 and development of acute otitis media in three (p less than 0.01 for complete resolution). Two weeks after initiation of therapy, patients with a MEE that failed to clear were crossed over to the alternative regimen. Overall 29 of 41 patients (71 per cent) who received oral prednisone plus TMP/SMZ initially or after the crossover had complete resolution of their middle ear effusion at two weeks after starting prednisone and TMP/SMZ. Five of 35 (14 per cent) patients treated with prednisone plus TMP/SMZ and one of six (17 per cent) patients treated with TMP/SMZ alone who had complete resolution at four weeks required subsequent referrals for tympanostomy tubes. A course of prednisone for seven days plus TMP/SMZ for 30 days with monthly follow-up should be considered in children with MEE persisting beyond six–eight weeks before referral for tympanostomy tube placement. Author.

**Changes in nasopharyngeal flora during otitis media of childhood.** Faden, H., Stanievich, J., Brodsky, L., Bernstein, J., Ogra, P. L. Division of Pediatric Infectious Diseases, State University of New York School of Medicine, Children's Hospital of Buffalo 14222. *Pediatric Infectious Diseases Journal* (1990) Sep, Vol. 9 (9), pp. 623–6.

The nasopharyngeal flora of healthy children were compared with flora in children with otitis media caused by nontypable *Haemophilus influenzae*, *Streptococcus pneumoniae* and *Moraxella catarrhalis*. Forty healthy children were followed prospectively and compared with 70 children with 43 episodes of nontypable *H. influenzae*, 21 episodes of *S. pneumoniae* and 28 episodes of *M. catarrhalis* otitis media. Carriage of nontypable *H. influenzae* (95 per cent vs. 65 per cent, p less than 0.001), *S. pneumoniae* (91 per cent vs. 52 per cent, p less than 0.005) and *M. catarrhalis* (86 per cent vs. 52 per cent, p less than 0.001) increased significantly during episodes of otitis media compared with healthy periods. The quantity of nontypable *H. influenzae*, *S. pneumoniae* and *M. catarrhalis* in nasopharyngeal secretions also increased during active infection compared with healthy periods: 3.0 vs. 2.0, p less than 0.005; 3.2 vs. 2.1, p less than 0.001; and 3.3 vs. 2.5, p less than 0.01, respectively. At the same time, nonpathogens of the resident flora, in particular viridans streptococci, declined in carriage: 65 per cent vs. 22 per

cent,  $p$  less than 0.001. These data suggest that respiratory pathogens become relatively more important in the microenvironment of the nasopharynx during episodes of otitis media. Furthermore the absence of a middle ear pathogen in a nasopharyngeal culture strongly suggests that the pathogen is not present in the middle ear space (negative predictive value greater than 0.96). Author.

**An electrical network model of inertially induced bone-conducted sound.** Williams, M., Howell, P. Department of Psychology, University

College London, England. *Scandinavian Audiology* (1990) Vol. 19 (3), pp. 161–70.

A model for the description of inertially induced bone-conducted sound has been developed and a discussion of the appropriate techniques for its representation as an electrical network is described. Predictions are made for the sound pressure produced in the meatus in the cases of normal ears and pathological ears resulting from vibration applied to the skull. Evidence from this modelling suggests that the technique may provide improved discriminability over conventional immittance measurements for some types of pathology. Author.