

Abstract Selection

Assessment of the efficacy and safety of three dose levels of cetirizine given once daily in children with perennial allergic rhinitis. Jobst, S., van den Wijngaert, W., Schubert, A., van de Venne, H. UCB, Pharma Sector, Braine-l'Alleud, Belgium. *Allergy* (1994) September, Vol. 49 (8), pp. 598–604.

The present study compared the efficacy and safety of three dose levels of cetirizine (2.5, 5, and 10 mg) once a day with placebo over 14 days in 6–12-year-old children with perennial allergic rhinitis. The design was a double-blind, randomized, multicentre, parallel-group study. Five symptoms (sneezing, nasal discharge, nasal obstruction, nasal pruritus, and ocular pruritus) were rated according to severity by investigators at the visits and daily by patients. Eighty-three patients were randomized to placebo, 84 to 2.5 mg cetirizine, 85 to 5 mg cetirizine, and 76 to 10 mg cetirizine. Groups were comparable at inclusion. The primary efficacy variable was the percentage of days with no or only mild symptoms: at all doses, cetirizine appeared to be more effective than placebo, but a significant difference was reached only in the 10-mg group (difference in medians of 22 per cent; $P = 0.016$). The test of linearity was significant ($P = 0.026$) for the percentage of asymptomatic days. The investigators' assessments at each visit scored the symptoms in the placebo group higher, i.e. more severe, than in the active groups, the 10-mg dose causing the greatest reduction in symptoms. Adverse events were infrequent and generally mild or moderate in severity. It was concluded that cetirizine at a 10-mg, once daily dose could be used to treat effectively 6–12-year-old children with perennial allergic rhinitis. Author.

Topical levocabastine compared with oral loratadine for the treatment of seasonal allergic rhinoconjunctivitis. Swedish GP Allergy Team. *Allergy* (1994) September, Vol. 49 (8), pp. 611–5.

This multicentre, double-blind, double-dummy, parallel-group trial was initiated to compare the efficacy and tolerability of two antihistamines, topical levocabastine (eye-drops and nasal spray) and oral loratadine, for the treatment of seasonal allergic rhinoconjunctivitis in the primary care setting. A total of 95 adult patients participated in the study with a treatment duration of 5 weeks. Forty-seven patients were randomized to receive twice daily levocabastine eye-drops and nasal spray plus an oral placebo, and 48 to receive once daily oral loratadine with placebo eye-drops and nasal spray. Naphazoline eye-drops and xylometazoline nasal spray were permitted as rescue medication. No statistically significant inter-group differences in therapeutic efficacy were observed. Symptom severity was comparable in the two treatment groups throughout the trial period. At the end of the study, 86 per cent of levocabastine-treated patients considered global therapeutic efficacy to be excellent or good, as compared with 77 per cent of those who received loratadine. This difference was not statistically significant. There were no significant differences in the use of rescue medication or in the incidence or severity of adverse events in the two treatment groups. In conclusion, levocabastine eye-drops and nasal spray appear to be as effective and well tolerated as oral loratadine for the treatment of seasonal allergic rhinoconjunctivitis. Author.

Epstein-Barr virus is present in a wide histological spectrum of sinonasal carcinomas. Leung, S. Y., Yuen, S. T., Chung, L. P., Kwong, W. K., Wong, M. P., Chan, S. Y. Department of Pathology, University of Hong Kong, Queen Mary Hospital. *American Journal of Surgical Pathology* (1995) September, Vol. 19 (9), pp. 994–1001.

Nasopharyngeal carcinomas a common occurrence in Southern Chinese people, shows a strong association with Epstein-Barr virus (EBV); in the same population, sinonasal carcinomas are distinctly rare. Although most nasopharyngeal carcinomas are lymphoepitheliomas, sinonasal carcinomas have a wide morphological spectrum. We studied the clinicopathological features and EBV status of 29 sinonasal carcinomas from Hong Kong Chinese patients. By *in situ* hybridization using antisense Epstein-Barr virus early RNA (EBER) probe, seven tumours were shown to be strongly positive for the EBV RNA. They displayed a wide morphological spectrum, including one cylindrical cell carcinoma, one intestinal type adenocarcinoma, four non-keratinizing squamous cell carcinomas, and one undifferentiated carcinoma. All were from elderly subjects (mean age, 67), including six men and one woman. Three of these seven patients had complete remission after radiotherapy with a median follow-up period of 29 months. In two cases, EBV latent membrane protein-1 was expressed. Detection of the virus in a number of histological subtypes, including cylindrical cell carcinoma and adenocarcinoma, suggests that EBV may play a role in the pathogenesis of a diverse spectrum of carcinomas. Author.

High frequency jet ventilation in the management of intra-operative tracheal injury. Hodgson, C. A., Mostafa, S. M. Royal Liverpool University Hospital. *Anaesthesia* (1995) July, Vol. 50 (7), pp. 637–8.

A patient undergoing pharyngo-oesophagectomy with gastric transposition sustained a large tracheal tear during the blind oesophageal dissection. High frequency jet ventilation was successfully employed in the acute airway management and continued postoperatively. Author.

Fibroperichondrectomy for the treatment of inveterate nasal septum deviation. Roddi, R. Department of Plastic and Reconstructive Surgery, University Hospital Maastricht, The Netherlands. *Annals of Plastic Surgery* (1995) June, Vol. 34 (6), pp. 607–12.

Conventional surgical techniques used for the treatment of nasal deviations do not avoid recurrences, especially in inveterate forms. The primary alteration of the nasal osteocartilaginous framework would progressively increase and, therefore, could cause changes of structures initially not involved by the trauma, such as alar or upper lateral cartilage. According to our analysis, it is supposed that the septal perichondrium is capable of restoring its previous position. This happens especially in the inveterate forms of deviation and even when the septal straightening has already been done. The anatomopathological study points out the constant presence of the fibrous thickening of the perichondrium at the same level as the concave portion of septum, and this finding represents the anatomical expression of the scarring reaction after the traumatic event. The fibroperichondrium is excised as radically as possible for the entire bilateral surface of the chondral septum. Good results by extramucosal perichondrectomy, associated with more conventional procedures of septum correction, in a series of 20 selected patients has encouraged reporting of the technique. Author.

Inverted papillomas that invade the orbit. Elner, V. M., Burnstine, M. A., Goodman, M. L., Dortzbach, R. K. Department of Ophthalmology, W.K. Kellogg Eye Center, University of Michigan, Ann Arbor, USA. *Archives of Ophthalmology* (1995) September, Vol. 113 (9), pp. 1178–83.

We describe 10 patients with inverted papillomas (IPs), uncommon endophytic epithelial tumours that arose in the nose,

paranasal sinuses, and lacrimal sac, that invaded the orbit; review the world literature on IP; and discuss treatment options. Patients ranged in age from 49 to 72 years (mean age, 62 years; median age, 66 years). Six patients were men and four were women. Presenting symptoms and signs included a medial canthal mass (n = 5), epiphora/lacrimal drainage obstruction (n = 3), inability to wear eyeglasses (n = 2), diplopia (n = 1), and painful dentures (n = 1). Histopathologic examination was performed in each patient and revealed all patients to have areas with malignant transformation: six patients with IPs that contained areas of squamous cell carcinoma and four with areas of transitional cell carcinoma in the tumour within the orbit. Eight of the patients with IPs had a recurrence after initial resection. In two patients, the IPs were completely excised and did not recur; yet, follow-up was short. Eight patients required orbital exenteration for local control of disease. Nevertheless, local spread of tumour through bone to brain occurred in three patients with orbital involvement. Indeed, IPs that invade the orbit have a high incidence of malignancy and are locally aggressive tumours. Treatment is difficult, and the recurrence rate is high. Early, wide excision of this aggressive tumour provides the best chance of cure. Author.

Penetrating injuries of the neck in patients in stable condition. Physical examination, angiography, or color flow Doppler imaging. Demetriades, D., Theodorou, D., Cornwell, E., 3rd, Weaver, F., Yellin, A., Velmahos, G., Berne, T. V. Department of Surgery, University of Southern California School of Medicine, Los Angeles, USA. *Archives of Surgery* (1995) September, Vol. 130 (9), pp. 971–5.

BACKGROUND: The initial assessment of penetrating injuries of the neck is controversial, with angiography remaining the gold standard for identifying vascular injuries. Recent reports suggest that physical examination might be an accurate way to evaluate these injuries. Colour flow Doppler imaging has been used with promising results to assess extremity injuries, but the role of colour flow Doppler imaging in neck injuries has not been studied. **OBJECTIVE:** To evaluate and compare the roles of physical examination, colour flow Doppler imaging, and angiography in the identification and management of penetrating neck and injuries. **STUDY DESIGN:** A prospective study of patients in stable condition with penetrating injuries of the neck. All study patients were examined according to a written clinical protocol and subsequently underwent angiography and colour flow Doppler imaging. The sensitivity and specificity of physical examination and colour flow Doppler imaging were compared with those of angiography. **RESULTS:** Eighty-two patients fulfilled the criteria for inclusion in the study. Angiography demonstrated vascular lesions in 11 patients (13.4 per cent), but only two (2.4 per cent) of them required treatment. Serious injuries were detected or suspected during physical examination, but six lesions not requiring treatment were missed. When injuries not requiring treatment were excluded, the sensitivity was 100 per cent and the specificity was 91 per cent. With colour flow Doppler imaging, 10 of the 11 injuries were identified, for a sensitivity of 91 per cent and a specificity of 98.6 per cent. The sensitivity and specificity were 100 per cent for clinically important lesions. **CONCLUSION:** The combination of a careful physical examination and colour flow Doppler imaging provides a reliable way to assess penetrating neck trauma and may be a safe alternative to routine contrast angiography.

Malignant fibrous histiocytoma of the mandible: the importance of an accurate histopathological diagnosis. Sohail, D., Kerr, R., Simpson, R. H., Babajews, A. V. Department of Histopathology, Royal Devon and Exeter Hospital. *British Journal of Oral and Maxillofacial Surgery* (1995) June, Vol. 33 (3), pp. 166–8.

A case is presented of a malignant fibrous histiocytoma arising in the mandible and oral cavity of a 62-year-old woman. The histopathological features were typical and the diagnosis was confirmed on immunohistochemistry. The exact nature of this usually soft tissue sarcoma is uncertain, but it is a well defined clinicopathological tumour entity which only rarely arises in the jaws. Microscopically, it may resemble other neoplasms, such as sarcomatoid squamous carcinoma, and an accurate diagnosis requires the use of immunohistochemistry or electron microscopy. Treatment is primarily surgical, but because of the difficulties at this site of complete removal with adequate margins, recurrence, metastasis and death due to disease are a likely outcome. Author.

Dynamic magnetic resonance imaging of vocal cord closure during deglutition. Flaherty, R. F., Seltzer, S., Campbell, T., Weisskoff, R. M., Gilbert, R. J. Department of Medicine, St Elizabeth's Medical Center, Boston, Massachusetts, USA. *Gastroenterology* (1995) September, Vol. 109 (3), pp. 843–9.

BACKGROUND AND AIMS: Vocal cord closure is instrumental in airway protection during deglutition. Conventional imaging of vocal cord closure and reopening during deglutition requires invasive and non-physiological methods. The aim of this study was to characterize the biomechanical properties of normal vocal cord adduction/abduction during deglutition using echoplanar magnetic resonance imaging, a technique that has the capability of imaging soft-tissue motion with real-time temporal resolution. **METHODS:** The movements of laryngeal and vocal cord structures during swallowing were determined in 11 normal volunteers by single slice and axially reformatted multislice coronal echoplanar images. **RESULTS:** During swallowing, the larynx ascended to peak elevation, maintained peak elevation for a discrete interval, and descended to its resting position. Vocal cord adduction occurred with a symmetric tent-like configuration at the midpoint of maximal laryngeal elevation, whereas vocal abduction occurred at the midpoint of laryngeal descent. Spatial analysis of vocal cord configuration during adduction determined that the vocal cords attained an initial parallel configuration during ascent, followed by closure at peak laryngeal elevation. **CONCLUSIONS:** These results show that the vocal cords adduct and abduct synchronously with laryngeal ascent and descent, respectively, during deglutition. Echoplanar magnetic resonance imaging constitutes a novel tool used to assess clinical abnormalities of deglutitive laryngeal function. Author.

Cartilage transformation in a composite graft of demineralized bovine bone matrix and ear perichondrium used in a child for the reconstruction of the nasal septum. Pirsig, W., Bean, J. K., Lenders, H., Verwoerd, C. D., Verwoerd-Verhoef, H. L. Department of Otorhinolaryngology, Universitäts-HNO-Klinik, Ulm, Germany. *International Journal of Pediatric Otorhinolaryngology* (1995) May, Vol. 32 (2), pp. 171–81.

For the first time it was observed in a boy that a xenogenic implant of demineralized bovine bone matrix, enfolded in a pedicled flap of autogenic ear perichondrium, was transformed into autogenic cartilage. This new cartilage could be adequately used as a graft to bridge the cartilaginous defect of a nasal septum perforation. The defect was successfully closed by a technique employing four bipedicled mucosal advancement flaps of the septum and the nasal floor. The result of this pilot study, which is based on experiments in growing rabbits, appears to open the possibility to create *de novo* young and growing autogenic cartilage of substantial quantity in children, without the loss of the cartilage present. Author.

Methods of selection for adenoidectomy in childhood otitis media with effusion. Oluwole, M., Mills, R. P. Department of Otolaryngology, Ninewalls Hospital and Medical School, Dundee, UK. *International Journal of Pediatric Otorhinolaryngology* (1995) May, Vol. 32 (2), pp. 129–35.

We have examined the implications of selecting children with otitis media with effusion (OME) for adenoidectomy using different criteria. Data were collected pre-operatively on 125 consecutive cases of OME. Ages 1–13 years, mean = 4.9 years; 68 males and 57 females. The criteria used were: (1) obstructive nasal symptoms (with three sub-categories); (2) age; and (3) nasopharyngeal airway size. The three sub-categories of obstructive nasal symptoms were based on the clinical practices of colleagues in the UK. Thus we analysed five criterion groups in all. These were: (1) snoring; (2) snoring + mouth breathing; (3) snoring + nasal obstruction; (4) age = 4–8 years; and (5) nasopharyngeal airway <4 mm. We found that applying each criterion separately to the group of children would result in widely differing numbers of children being selected for adenoidectomy. Of the 125 children, the percentage selected by each method varied considerably, ranging from 35–70 per cent. In addition, there was only limited overlap (43–71 per cent), between the composition of the groups. This helps to explain the variations in surgical rates in different centres. In the absence of any universally acceptable guidelines, therefore, the importance of individual assessment of children cannot be overemphasized. Author.

Pharyngeal narrowing/occlusion during central sleep apnea. Badr, M. S., Toiber, F., Skatrud, J. B., Dempsey, J. Medical Service, William S. Middleton Memorial Veterans Hospital, Madison, Wisconsin 53705, USA. *Journal of Applied Physiology* (1995) May, Vol. 78 (5), pp. 1806–15.

We hypothesized that subatmospheric intraluminal pressure is not required for pharyngeal occlusion during sleep. Six normal subjects and six subjects with sleep apnoea or hypopnoea (SAH) were studied during non-rapid-eye-movement sleep. Pharyngeal patency was determined by using fibre-optic nasopharyngoscopy during spontaneous central sleep apnoea ($n = 4$) and induced hypocapnic central apnoea via nasal mechanical ventilation ($n = 10$). Complete pharyngeal occlusion occurred in 146 of 160 spontaneously occurring central apnoeas in patients with central sleep apnoea syndrome. During induced hypocapnic central apnoea, gradual progressive pharyngeal narrowing occurred. More pronounced narrowing was noted at the velopharynx relative to the oropharynx and in subjects with SAH relative to normals. Complete pharyngeal occlusion frequently occurred in subjects with SAH (31 of 44 apnoeas) but rarely occurred in normals (three of 25 apnoeas). Resumption of inspiratory effort was associated with persistent narrowing or complete occlusion unless electroencephalogram signs of arousal were noted. Thus pharyngeal cross-sectional area is reduced during central apnoea in the absence of inspiratory effort. Velopharyngeal narrowing consistently occurs during induced hypocapnic central apnoea even in normal subjects. Complete pharyngeal occlusion occurs during spontaneous or induced central apnoea in patients with SAH. We conclude that subatmospheric intraluminal pressure is not required for pharyngeal occlusion to occur. Pharyngeal narrowing or occlusion during central apnoea may be due to passive collapse or active constriction. Author.

Temporary threshold shift and otoacoustic emissions after industrial noise exposure. Kvaerner, K. J., Engdahl, B., Arnesen, A. R., Mair, I. W. Department of Otorhinolaryngology, Ullevål Hospital, Oslo, Norway. *Scandinavian Audiology* (1995), Vol. 24 (2), pp. 137–41.

The objective of the present study was to investigate whether employees in a noise-exposed environment developed changes in cochlear function as manifested by elevation of pure-tone threshold and/or reduction in transient evoked otoacoustic emission (TEOAE) amplitude. Pure-tone air-conduction audiometry, otoacoustic emissions (OAEs) and tympanometry were recorded in 13 healthy employees on three consecutive days both before and after 7 h of noise exposure. Employees exposed to an industrial noise level of 85–90 dBA developed significant pure-tone air-conduction threshold elevation at 4 and 6 kHz. A significant reduction of the TEOAE amplitude was found. There was no correlation between temporary threshold shift (TTS) and TEOAE reduction. Author.

Nitric oxide metabolites in nasal lavage fluid of patients with house dust mite allergy. Garrelds, I. M., van Amsterdam, J. G., de Graaf in t Veld, C., Gerth van Wijk, R., Zijlstra, F. J. Department of Pharmacology, Faculty of Medicine, Erasmus University, Rotterdam, The Netherlands. *Thorax* (1995) March, Vol. 50 (3), pp. 275–9.

BACKGROUND: The role of nitric oxide in the early and late phase of the allergic process was investigated in patients with allergic rhinitis against house dust mite and the effect of fluticasone propionate aqueous nasal spray was determined. **METHODS:** Production of nitric oxide (measured as nitrite + nitrate) *in vivo* in nasal mucosa was examined in 24 patients with rhinitis allergic to the house dust mite. In a double blind placebo controlled crossover study fluticasone propionate 200 micrograms aqueous nasal spray was administered twice daily for two weeks. In response to provocation with house dust mite extract (after four basal nasal lavages) nasal lavages were performed every hour for 9.5 hours by washing the nose with saline. In addition, a similar lavage protocol was performed in healthy volunteers with or without challenge with phosphate buffered saline. **RESULTS:** Nitric oxide is present in nasal lavage fluid in detectable amounts (range 10–50 microM), the level gradually increasing with time in both patients and controls after a decrease during the four basal lavages. Treatment with fluticasone propionate aqueous nasal spray did not affect initial basal production of nitric oxide nor production following provocation with house dust mite extract.

CONCLUSIONS: Production of nitric oxide in nasal mucosa determined in sequential nasal washings is not affected by therapeutic doses of intranasal steroids. Author.

Effect of 3 months' nasal steroid therapy on nasal T cells and Langerhans cells in patients suffering from allergic rhinitis. Holm, A. F., Fokkens, W. J., Godthelp, T., Mulder, P. G., Vroom, T. M., Rijntjes, E. Department of Otorhinolaryngology, University Hospital, Rotterdam, The Netherlands. *Allergy* (1995), March, Vol. 50 (3), pp. 204–9.

The effect of nasal corticosteroid therapy on allergic rhinitis is uncertain. In a double-blind, placebo-controlled study over three months, we investigated the influence of a new corticosteroid spray, fluticasone propionate aqueous nasal spray (FPANS), on Langerhans cells (CD1a+ cells), HLA-DR+ cells, and T cells in nasal mucosa. Efficacy was evaluated by nasal symptom score. This treatment significantly decreased the number of CD1a+ cells and HLA-DR+ cells in the nasal mucosa. Furthermore, a clear trend of decreasing numbers of T cells in nasal epithelium was found. No change in nasal symptom score was found after the treatment period. These findings suggest that fluticasone propionate aqueous nasal spray decreases the antigen presentation in nasal allergy. Author.

Histogenesis of papillomas of the nose and paranasal sinuses. Michaels, L., Young, M. Department of Histopathology, University College London School of Medicine, England. *Archives of Pathology and Laboratory Medicine* (1995) September, Vol. 119 (9), pp. 821–6.

OBJECTIVE: To determine by review of their histogenesis whether papillomas of the nose and paranasal sinuses are three distinct entities or, as has been favoured in the literature, three variations of a single entity. **METHODS AND PATIENTS:** We examined biopsy sections from 191 patients with sinonasal papillomas. Biopsy sections included all types of sinonasal papillomas stained using routine methods and, in some cases, using immunohistochemistry for macrophages (PG-M1) and proliferation antigen (MIB-1). Two cases of inverted papilloma were also examined using transmission electron microscopy. **RESULTS:** Everted and cylindrical cell papillomas are true papillomas, lined by stratified squamous and microcystaden, columnar, oncocytic epithelium, respectively. Inverted papillomas are polyps with marked, patchy squamous metaplasia and numerous microcysts containing macrophages in ductal and surface epithelium. There are no intermediate forms from any one of the three types to another. **CONCLUSIONS:** Some differences between the three types are already established with regard to sites of origin, tendency to recur, and association with malignancy. It is likely that their aetiologies—e.g. concerning human papillomavirus infection—will be found to differ, if their distinct histogeneses are considered. Author.

Gastroesophageal reflux and ENT disorders in childhood. Contencin, P., Maurice, C., Ployet, M. J., Seid, A. B., Sinaasappel, M. ORL, Hospital Saint-Vincent-de-Paul, Paris, France. *International Journal of Pediatric Otorhinolaryngology* (1995) June, Vol. 32 Suppl., pp. S135–44.

Among controversies in paediatric otorhinolaryngology, the role of gastroesophageal reflux (GER) in inflammatory disorders of the upper airway remains of major concern. A laryngeal involvement by GER was demonstrated in adults and a correlation with GER has been found in paediatric populations with recurrent croup. However, although considered statistically significant, these results concern a few patients only and are inconclusive for a causal relationship. In addition, pH monitoring, often considered as the gold standard for the diagnosis of GER disease, has failed in giving normal values in ENT disorders. Eventually, upper pharyngeal and nasal involvements by GER and GER-related otitis media or otalgia have been suggested by some authors. In the 6th International Congress on Paediatric Otolaryngology, the Symposium on GER was designed to help physicians in improving their knowledge of the data from the literature and their understanding of the involved mechanisms. Bearing in mind the potential severity of GER disease, the audience also heard and debated the most up-to-date methods of assessing GER and treating it in patients with possibly related otorhinolaryngological symptoms. Here is the summary of this symposium. Author.

Immunological aspects of otitis media: present views on possibilities of immunoprophylaxis of acute otitis media in infants and children. Karma, P. H., Bakaletz, L. O., Giebink, G. S., Mogi, G., Rynnel-Dagoo, B. Department of Otorhinolaryngology, Helsinki University Central Hospital, Finland. *International Journal of Pediatric Otorhinolaryngology* (1995) June, Vol. 32 Suppl., pp. S127–34.

The article reviews, based on current knowledge of immunological events affecting the middle ear, the possibilities and prospects for the prevention of otitis media (OM) by immunologic measures. While pneumococcal capsular polysaccharide vaccines proved not to be effective against infant acute otitis media (AOM), pneumococcal conjugate vaccines provide good immunogenicity even in infants, and call for trials with better prospects of clinical efficacy. The other future approaches currently under development are vaccines against non-typable *Haemophilus influenzae* and *Branhamella catarrhalis*, anti-viral immunoprophylaxis, combinations of the above alternatives, or passive immunization. Also, the use of new routes or ways of immunization are under study. Furthermore, the ways to modify the present treatment practices of AOM to favour good immunologic responses in infants and children must be studied. Author.

The adenoid as a key factor in upper airway infections. van Cauwenberge, P. B., Bellussi, L., Maw, A. R., Paradise, J. L., Solow, B. Department of Otorhinolaryngology, University Hospital, Ghent, Belgium. *International Journal of Pediatric Otorhinolaryngology* (1995) June, Vol. 32 Suppl., pp. S71–80.

The adenoids (and the nasopharynx) play a key role in the normal functioning and in various pathologies of the upper respiratory tract. In this paper the role of adenoidal pathology and the beneficial effect of adenoidectomy in some upper respiratory tract and facial anomalies and diseases are discussed; otitis media with effusion, recurrent acute otitis media, sinusitis, snoring and sleep apnoea and abnormal patterns in the midface growth and development. Author.

The treatment of chronic sinusitis: a controversial issue. Lund, V. J., Neijens, H. J., Clement, P. A., Lusk, R., Stammberger, H. Institute of Laryngology and Otology, London, UK. *International Journal of Pediatric Otorhinolaryngology* (1995) June, Vol. 32 Suppl., pp. S21–35.

The persistence of sinusitis after upper respiratory tract infection is influenced by a range of aetiological factors such as anatomical variation which may be surgically corrected, mucociliary abnormalities and immune deficiency. The latter is more common than previously realized, encompassing IgG subclass deficiency, reduced opsonization and Fc gamma receptor polymorphism. This has therapeutic implications, with the possibility of IgG replacement therapy and vaccination. CT scanning suggests that the age of the patient and anatomical abnormalities are important aetiological factors in chronic rhinosinusitis. Only when medical therapy fails, is surgery considered. Although a range of surgical procedures are available, an endoscopic approach may be directed at the ostiomeatal complex and is generally very conservative. Scanning is a prerequisite to this surgery, demonstrating both the extent of disease and the anatomy but requires careful interpretation. Furthermore, an endoscopic technique can be employed for a number of other sinus conditions though this should only be undertaken by an experienced surgeon. A long-term prospective study of children undergoing radical sinus surgery for neoplasia strongly suggests that concerns that surgery in the middle meatus might disturb subsequent facial development are unfounded. Author.

Water bolus for electron irradiation of the ear canal. Morrison, W. H., Wong, P. F., Starkschall, G., Garden, A. S., Childress, C., Hogstrom, K. R., Peters, L. J. Department of Radiotherapy, University of Texas M. D. Anderson Cancer Center, Houston 77030, USA. *International Journal of Radiation, Oncology, Biology and Physics* (1995) September 30, Vol. 33 (2), pp. 479–83. **PURPOSE:** To demonstrate that water bolus in the external ear can decrease the dose in homogeneity caused by auricular surface irregularities when the ear is in an electron-beam field. **METHODS AND MATERIALS:** Three-dimensional (3D) dose distributions with and without water bolus in the external ear were calculated for a representative patient. The electron dose calculations were made using the Hogstrom pencil beam algorithm

as implemented in 3D by Starkschall. To demonstrate the use of water bolus in the ear clinically, the case of a patient with squamous carcinoma of the concha who was treated with electrons is presented. **RESULTS:** Water bolus markedly lessens the dose heterogeneity caused by the surface irregularities of the ear and the air in the external auditory canal. In the test case, the maximum dose was reduced by 25 per cent using this technique. **CONCLUSION:** When the ear is in an electron beam field, warm water should be placed in the external auditory canal and concha. This manoeuvre may reduce the incidence of auricular complications that occur after electron-beam therapy. Author.

High incidence of *Haemophilus influenzae* in nasopharyngeal secretions and middle ear effusions as detected by PCR. Ueyama, T., Kurono, Y., Shirabe, K., Takeshita, M., Mogi, G. Department of Otolaryngology, Oita Medical University, Japan. *Journal of Clinical Microbiology* (1995) July, Vol. 33 (7), pp. 1835–8.

PCR was used to detect *Haemophilus influenzae* in samples of nasopharyngeal secretion and middle ear effusion (MEE). Nasopharyngeal secretions were collected from 102 patients with otitis media with effusion and from 111 healthy subjects. Eighty samples of MEE were collected from patients with otitis media with effusion. A pair of primers was designed to amplify a DNA segment of the gene encoding P6 outer membrane protein of *H. influenzae*. The amplified PCR product was detected with an internal probe that hybridized specifically to the P6 DNA of *H. influenzae*. Samples of MEE and nasopharyngeal secretion were also examined by a conventional culture method. The incidence of P6 gene DNA in nasopharyngeal secretions detected by PCR was about two times higher than that of *H. influenzae* detected by the conventional culture. Culture-positive samples were all positive in the PCR test. In MEEs, the rate of detection of the P6 gene DNA target was about five times higher than that of *H. influenzae* detected by the culture method. All patients who had P6 gene DNA in MEEs were found to have the DNA in nasopharyngeal secretions. These findings suggest that the presence of *H. influenzae* in MEEs and in nasopharyngeal secretions is more common than previously reported. Author.

Diagnostic issues in a family with late onset type 2 neurofibromatosis. Evans, D. G., Bourn, D., Wallace, A., Ramsden, R. T., Mitchell, J. D., Strachan, T. Department of Medical Genetics, St Mary's Hospital, Manchester, UK. *Journal of Medical Genetics* (1995) June, Vol. 32 (6), pp. 470–4.

We report a family with type 2 neurofibromatosis and late onset tumours. Five members of this family have developed hearing loss late in life, two of whom have only been shown to have the diagnosis in their seventies, and three other obligate gene carriers died undiagnosed at 64, 72, and 78 years of age. A missense mutation at the C-terminal end of the NF2 protein has been identified in this family and segregates with disease. The use of highly polymorphic markers for predictive testing is also shown. There appears to be an autosomal dominant form of spinocerebellar degeneration which is segregating separately to NF2 in this family, which created a diagnostic dilemma. Author.

Imaging blood vessels of the head and neck. Sellar, R. J. Department of Neuroradiology, Western General Hospital, Edinburgh, UK. *Journal of Neurology, Neurosurgery and Psychiatry* (1995) September, Vol. 59 (3), pp. 225–37.

ATHEROSCLEROTIC DISEASE: Patients with transient ischaemic attacks or a non-disabling stroke who are surgical candidates should be screened with Doppler ultrasound, or MRA/CT, or both. The choice will depend on local expertise and availability. If DUS is used it is recommended that the equipment is regularly calibrated and a prospective audit of results, particularly of those patients that go on to angiography, is maintained locally. Those patients found to have the DUS equivalent of a 50 per cent stenosis should have angiography only if surgical or balloon angioplasty treatment is contemplated. Angiography should be performed with meticulous technique to minimise risks. **ANEURYSM AND ARTERIOVENOUS MALFORMATIONS:** Angiography remains the investigation of choice for patients with subarachnoid haemorrhage. Magnetic resonance angiography and CT can demonstrate the larger aneurysm but because even small aneurysms can rupture with devastating effects, these techniques are not the examination of first choice. Angiography is also the only technique that adequately defines the

neck of an aneurysm. This information is becoming increasingly important in management decisions—for instance, whether to clip or use a coil. Likewise angiography is the only technique to fully define the vascular anatomy of arteriovenous malformations although the size of the nidus can be monitored by MRA and this is a useful method of follow up after stereotactic radiosurgery, embolization, or surgery. There are specific uses for MRA such as in patients presenting with a painful 3rd nerve palsy and as a

screening test for those patients with a strong family history of aneurysms. **VASCULITIS, FIBROMUSCULAR HYPERPLASIA, AND DISSECTION:** These rare arterial diseases are best detected by angiography, although there are increasing reports of successful diagnosis by MRA. There are traps for the many unwary and MRA does not give an anatomical depiction of the arteries but a flow map. Slow flow may lead to signal loss and a false positive diagnosis of vasculitis. Author.