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Abstract selection

Malignant tumours of the maxillary complex: an 18-year review. Stavrianos, S. D., Camilleri, I. G., McLean, N. R., Piggot, T. A., Kelly C. G., Soames, J. V. Department of Plastic and Reconstructive Surgery, Newcastle General Hospital, Newcastle upon Tyne, UK. *British Journal of Plastic Surgery* (1998) December, Vol. 51 (8), pp. 584–8.
Over an 18-year period, 147 patients with malignant tumours involving the maxillary complex were treated in a combined head and neck clinic, of whom 50 underwent surgery. There were 33 males and 17 females, the mean age was 57 years (range 11–87 years). The most common clinical presentations were either painful facial swelling, infraorbital anaesthesia, palatal ulceration or nasal obstruction. Preoperative investigations included EUA, biopsy and either CT or MRI scans. Of the 50 tumours, 62 per cent were squamous cell carcinomas. Surgery consisted of either partial or total maxillectomy including craniofacial resection in nine patients. Reconstruction was by either split skin grafting or by free tissue transfer when the cranial contents had been exposed. Adjuvant radiotherapy was given in 82 per cent of the patients. The mean follow-up was five years and 59 per cent of patients are alive and disease free. The five-year local control rate was 67 per cent; it was greatly influenced by histological evidence of nerve invasion, local recurrence being the major cause of death. It was concluded that adequate surgical clearance, followed by planned postoperative radiotherapy, is the most effective treatment for malignant disease of the maxillary complex.

The inflammatory nature of allergic disease. Durham, S. R. Allergy and Clinical Immunology, National Heart and Lung Institute, London, UK. *Clinical and Experimental Allergy* (1998) December, Vol. 28 Suppl 6, pp. 20–4.
The allergic inflammatory response in allergic rhinitis has been studied extensively owing to the high frequency of the condition, the significant morbidity it causes and the accessibility of the nasal tissue. The allergic inflammatory response is characterized by IgE synthesis, IgE-dependent mast cell activation and infiltration of the nasal mucosa by T lymphocytes and eosinophils. The immediate-phase response is mediated by a range of inflammatory mediators (such as histamine, leukotrienes and prostaglandins), resulting in vasodilatation, oedema, mucus secretion, itching and sneezing. Individuals who experience a late-phase response have further nasal symptoms four to 24 h after the initial challenge with allergen. Results of nasal biopsy studies indicate that the late-phase allergic response involves T-lymphocyte activation, production of TH2-type cytokines and tissue eosinophilia. Corticosteroids potently inhibit T-lymphocyte responses, and clinical studies in subjects with allergic rhinitis have demonstrated that they are extremely effective in blocking both early- and late-phase allergic reactions. Topical aqueous triamcinolone acetonide nasal spray represents a novel formulation of a topical corticosteroid for the treatment of allergic rhinitis. Data from controlled clinical studies indicate that it is effective in treating seasonal and perennial disease, is well tolerated, does not suppress adrenocortical function, is odourless, and can be administered as a once-daily dose.

Rhinitis management: the patient's perspective. Juniper, E. F. Clinical Epidemiology and Biostatistics, McMaster University Medical Centre, Hamilton, Ontario, Canada. *Clinical and Experimental Allergy* (1998) December, Vol. 28 Suppl 6, pp. 34–8.
Seasonal allergic rhinitis causes considerable impairment of health-related quality of life (HQRL). Generic quality-of-life questionnaires enable a comparison to be made between patients with different illnesses, but they often have insufficient depth to measure specific problems that are important to an individual with a particular condition. In order to overcome these shortcomings, the Rhinoconjunctivitis Quality of Life Questionnaire (RQLQ) was developed. Eighty-nine patients, with a wide range of rhinoconjunctivitis severity, scored a list of 91 problems for importance. The highest-scoring problems were the practical problems: continually having to blow the nose, rub the nose and eyes, and carry tissues. Patients were also bothered by sleep impairments and systemic problems such as tiredness, poor concentration and thirst. Questionnaires have also been developed for adolescents (12–17 years of age)-finding similar results to those for adults-and children (six to 12 years of age), who were troubled by their symptoms but did not have the emotional dysfunction experienced by adults and adolescents. All three questionnaires have strong measurement properties and have high reliability and good responsiveness, validity and interpretability. Quality-of-life questionnaires can be used in clinical studies to help elucidate which treatments are preferred by patients and the efficacy of treatment regimens. Disease-specific quality-of-life questionnaires can also be used during routine assessments and may reveal problems not spontaneously volunteered by patients, particularly children. Results can also be compared at each clinic visit to determine whether each intervention has been beneficial.

Rapid symptom relief in rhinitis. Bousquet, J. CHU Montpellier, Hopital Arnaud de Villeneuve, France. *Clinical and Experimental Allergy* (1999) March, Vol. 29 Suppl 1, pp. 25–9.
In some patients, symptoms of allergic rhinitis can be severe and therefore rapid relief is required. There are many treatment options for allergic rhinitis but histamine H1 blockers and topical corticosteroids represent the first-line treatment. Although the latter drugs are usually very effective on nasal symptoms, their onset of action is around 24 h. Thus drugs that are more rapidly effective are of interest. Recently 400 French specialists (in Allergy, ENT and Pneumology) met together to define the criteria for selecting a drug for the treatment of rhinitis. Twelve criteria were proposed and rapid onset of action (less than 24 h) was among the foremost designated criteria. In the first trial, a comparison of mizolastine (10 mg once daily (o.d.)) with cetirizine (10 mg o.d.) and placebo was carried out in the management of seasonal allergic rhino-conjunctivitis (SAR) with special focus on onset of action. A total of 375 patients were included in this European multicentric, randomized, parallel group and placebo-controlled study. By comparison to placebo, both cetirizine and mizolastine reduced significantly nasal and ocular symptoms during the 28-day follow-up trial. The percentage of responders ranged from 40 per cent in the placebo group to 55 per cent in the mizolastine group and 53 per cent in the cetirizine group. Both active drugs were effective from the first intake with a rapid onset within two hours. However, mizolastine was more rapidly and more profoundly effective than cetirizine during the first 12 h. A second trial included 257 patients suffering from perennial allergic rhino-conjunctivitis (PAR) in a four-week double-blind placebo-controlled multicentric study. During the study, patients recorded, using a diary card, ocular and nasal symptoms, including nasal blockage. The mean values of nasal score between day one, 14 and 28 in the mizolastine group were statistically significantly lower than those in the placebo group. The mean values of ocular score showed a statistical difference in recordings between day one and day 14 in favour of the mizolastine group. Mizolastine was an effective drug both in SAR and PAR with a rapid onset of action. Mizolastine relieved symptoms more effectively than cetirizine (SAR) and placebo (SAR and PAR) at the beginning of treatment.

The effect of masker interaural time delay on the masking level difference in children with history of normal hearing or history of otitis media with effusion. Hall, J. W. 3rd, Grose, J. H., Dev, M. B., Ghiassi, S. Division of Otolaryngology, The University of North Carolina at Chapel Hill, 27599-7070, USA. *Ear and Hearing* (1998) December, Vol. 19 (6), pp. 429–33.

OBJECTIVE: To determine the relation between the masking level difference (MLD) and the interaural time delay of the stimulus in children with a history of normal hearing and with a history of otitis media with effusion (OME). DESIGN: MLDs for a 500 Hz pure tone presented in a 100 Hz-wide masking noise were determined as a function of the interaural delay of the masker (six interaural delays between −726 microsec and +998 microsec were examined). For the masker with zero interaural delay, the signal was presented either interaurally in-phase or 180 degrees out of phase. For the masker delay conditions, the signal was given the same interaural delay as the masker and then was inverted interaurally. All children had normal audiograms at the time of testing. Ten children had a history of normal hearing and seven children had a history of OME. RESULTS: Similar to what has been found previously in adults, children with a history of normal hearing showed the maximum MLD (approximately 16 dB) for an interaural time delay of zero microsec, with the MLD decreasing as a function of interaural time delay (by as much as four to five dB for the extreme delays). Children with a history of OME had significantly smaller MLDs than normal for the three smallest interaural delays but did not differ significantly from normal at the three largest interaural delays. CONCLUSIONS: The form of the function relating masker interaural time delay to MLD magnitude is adult-like by age six years. The function indicates a binaural advantage for the processing of sound near auditory midline. This advantage is less apparent in children having a history of OME.

Investigation of the profile of hearing aid performance inexperienced hearing aid users. Purdy, S. C., Jerram, J. C. Department of Physiology, Faculty of Medicine and Health Science, The University of Auckland, New Zealand. *Ear and Hearing* (1998) December, Vol. 19 (6), pp. 473–80.
OBJECTIVE: A shortened version of the 66-item Profile of Hearing Aid Performance (PHAP), consisting of the 24 items from the Abbreviated Profile of Hearing Aid Benefit, was evaluated as an alternative to the full PHAP questionnaire as a measure of hearing aid performance. Objectives were to: 1) statistically determine factors underlying Abbreviated PHAP (APHAP) scores; 2) recommend modifications to the questionnaire, if indicated by the factor analysis; 3) compare scores for the PHAP an APHAP; and 4) determine the suitability of the abbreviated questionnaire for New Zealand hearing aid users. The relationship between hearing aid performance and subjective variables and other measures of hearing aid success also was investigated. DESIGN: PHAP data, hearing aid satisfaction ratings, and reported daily hearing aid use were obtained from experienced adult hearing aid users. Factor analysis was carried out for the 24 APHAP items, an two items were excluded because of low factor loadings. After this modification, APHAP and PHAP scores were compared. Pearson's correlation values were determined for PHAP and APHAP data and degree of hearing loss, hearing aid satisfaction, and hours of hearing aid use. RESULTS: APHAP hearing aid performance was better described as three factors rather than four subscales. PHAP and APHAP results were consistent with previous studies and showed that hearing aid performance was best for easy listening situations and poorest for noisy and/or reverberant conditions. Similar trends were seen for PHAP and APHAP data. APHAP scores were correlated with hours of hearing aid use and overall hearing aid satisfaction. CONCLUSIONS: A shortened, 22-item APHAP is a preferred alternative to the full PHAP, producing data representing several dimensions of hearing aid performance. Modified APHAP scores can be used together with overall satisfaction and estimates of daily hearing aid use to measure success with hearing aids.

Characteristics of transient evoked otoacoustic emissions in normal-hearing and hearing-impaired children. Harrison, W. A., Norton, S. J. Children's Hospital & Regional Medical Center, Seattle, Washington 98105, USA. *Ear and Hearing* (1999) February, Vol. 20 (1), pp. 75–86.
OBJECTIVE: Transient evoked otoacoustic emissions (TEOAEs) were measured in children with normal hearing and in children with hearing loss to investigate the characteristics of TEOAEs as they relate to overall amplitude and amplitude spectra of evoking stimuli, and to audiometric status. DESIGN: Three parameters of response measure (signal to noise ratio, amplitude and reproducibility) were assessed to determine accuracy of identification of varying degrees of hearing loss for broadband clicks, frequency-specific click bands and tone bursts. Forty-four children (66 ears) between four and 13 years of age were evaluated for participation in the study. Fifty-nine ears with intact tympanic membranes were included in the final analyses: 14 years with normal hearing and 45 ears with hearing loss. RESULTS: Children with normal hearing had robust responses that displayed nonlinear growth functions for broadband clicks and for tone bursts. Children with hearing loss had responses that decreased rapidly with decreasing stimulus level, if emissions were present at all. Data were analyzed using clinical decision analysis and receiver operator characteristic curves. Broadband clicks presented at 80 and 86 dB peSPL identified a hearing loss > or = 30 dBHL with a high degree of accuracy. Click responses filtered into octave bands centered at 500 and 1000 Hz did not improve classification of hearing loss, in fact, the 500 Hz band was particularly inaccurate. Results for click responses filtered into half-octave bands centred at 2000 and 4000 Hz were comparable with those for the broadband click, although the 2000 Hz band was superior for identification of hearing loss > or = 20 dbHL for an 80 dB peSPL click, and > or = 30 dB HL for an 86 dB peSPL click. Results for tone bursts centered at 500, 1000, 2000 and 4000 Hz, presented at 80 dB peSPL, were similar to results of the filtered click bands. Accuracy for identifying hearing loss increased with increasing center frequency. The 2000 and 4000 Hz tone bursts provided the best separation between normal-hearing and hearing-impaired ears, with 4000 Hz being slightly better. CONCLUSIONS: Data from this study suggests that TEOAEs in children can separate ears with normal hearing from those with hearing loss using a variety of stimulus and response conditions. Moreover, by using multiple stimulus levels it may be possible to distinguish between mild and moderate hearing losses.

Laryngeal framework surgery for the management of aspiration. Carrau, R. L., Pou, A., Eibling, D. E., Murry, T., Ferguson, B. J. Department of Otolaryngology, The University of Pittsburgh School of Medicine, Pennsylvania 15213, USA. *Head and Neck* (1999) March, Vol. 21 (2), pp. 139–45.
BACKGROUND: During the past decade, laryngeal framework surgery has become the treatment of choice for the management of adductor paralysis of the vocal fold. The primary impetus for the use of this technique has been on the rehabilitation of voice. The purpose of this study was to ascertain the effectiveness of laryngeal framework surgery, including medialization laryngoplasty with silicone (MLS), with or without arytenoid adduction (AA), on eliminating aspiration, improving diet, and aiding in the subsequent decannulation of individuals with glottic insufficiency secondary to vocal fold palsy. METHODS: A retrospective chart review was performed on all patients initially seen with vocal cord paralysis who were treated with laryngeal framework surgery from June 1992 to April 1996. The study comprised 70 patients, including 31 women and 39 men, with a median age of 57 years. Clinical information was obtained regarding the etiology of the lesion, characteristics of the vocal cord deficit, history of aspiration, the presence of other neurologic deficits or concurrent pulmonary disease, treatment, and outcome. To determine the effectiveness of MLS, with or without AA, we assessed the final outcome regarding the presence and degree of aspiration, diet, history of aspiration pneumonia, and decannulation. RESULTS: Seventy patients underwent 77 MLS (three bilateral, four revisions), and 21 AA. Decreased aspiration was obtained in 96 per cent of our patients. Seventy-five per cent of those patients who had required a tracheotomy were decannulated. CONCLUSIONS: These results support the use of laryngeal framework surgery for the effective treatment of aspiration in selected patients initially seen with deficits of the glottic closure secondary to vocal fold paralysis or paresis.

Tissue oxygen distribution in head and neck cancer patients. Adam, M. F., Gabalski, E. C., Bloch, D. A., Oehlert, J. W., Brown, J. M., Elsaid, A. A., Pinto, H. A., Terris, D. J. Department of Radiation Oncology/Division of Radiation Biology, Stanford University Medical School, California, USA. *Head and Neck* (1999) March, Vol.21 (2), pp. 146–53.
BACKGROUND: The importance of hypoxia in limiting the sensitivity of tumour cells to ionizing radiation has long been known. METHODS: We evaluated the tissue oxygenation status with a polarographic needle electrode system in 37 patients with malignancies of the head and neck and correlated the p02 of 25

patients with treatment outcome. RESULTS: Sixteen tumours contained areas of severe hypoxia, defined by p02 values below 2.5 mmHg. Tumour oxygenation parameters were not correlated with hemoglobin, age, and history of tobacco use. There were no subcutaneous PO2 values below 10 mmHg (i.e. no areas of moderate or severe hypoxia), whereas this degree of hypoxia was commonly found in the tumours. Though not statistically significant, hypoxic tumours showed trends for poorer treatment outcome. CONCLUSION: Our data demonstrate a great inter-individual variability in the oxygenation of head and neck cancers and appears unassociated with clinical parameters. The method is capable of identifying patients with poorly oxygenated tumours, thereby providing important information for selecting patients who might need customized therapy designed to kill hypoxic tumour cells. Hypoxic tumours show a consistent trend for poor treatment outcome.

Percutaneous embolization to control intractable epistaxis in nasopharyngeal carcinoma. Mok, J. S., Marshall, J. N., Chan, M., van Hasselt, C. A. Department of Surgery, Division of Otorhinolaryngology, Prince of Wales Hospital, The Chinese University of Hong Kong, Shatin, N.T. *Head and Neck Surgery* (1999) May, Vol. 21 (3), pp. 211–6.
BACKGROUND: Epistaxis in patients with nasopharyngeal carcinoma (NPC) who have received radiotherapy can be difficult to control by conventional methods. The use of angiography and embolization to control problematic epistaxis has been well documented in other situations, but its use in severe or recurrent epistaxis following irradiation for NPC has not been described. METHODS: We retrospectively reviewed case notes of all patients with NPC initially seen with epistaxis over a four year period. Those patients with refractory epistaxis which could not be controlled by conventional methods and required angiography and embolization were assessed. RESULTS: Eight patients who underwent angiography were identified. Five patients showed hypervascularization and three patients had pseudoneurysms or an aneurysm of the internal carotid artery seen on the angiogram. All these patients were successfully embolized. There were no significant complications after the procedure. CONCLUSION: We conclude that embolization is a safe and effective method of controlling refractory epistaxis in patients irradiated for NPC.

Non-Hodgkin's lymphoma of the head and neck: a 30-year experience at the University of Florida. Nathu, R. M., Mendenhall, N. P., Almasri, N. M., Lynch, J. W. Department of Radiation Oncology, University of Florida Health Science Center, Gainesville 32610-0385, USA. *Head and Neck* (1999) May, Vol. 21 (3), pp. 247–54.
BACKGROUND: Outcome in previously untreated patients, with non-Hodgkin's lymphoma of the head and neck needed to be assessed. METHODS: A retrospective review was performed of 79 patients with stage I or II non-Hodgkin's lymphoma of the head and neck treated between 1964 and 1994 with radiotherapy (RT) or combined modality therapy (CMT) at the University of Florida. Freedom from relapse, cause-specific survival, and absolute survival were analyzed by the Kaplan-Meier method. Patterns of failure were defined, and the relationship between dose and infield recurrence was studied. Histology was classified as low grade or intermediate/high grade. RESULTS: At 10 years, absolute survival for patients with low-grade lymphoma treated with RT was 45 per cent; absolute survival for patients with intermediate/high-grade lymphoma was 41 per cent for those treated with RT and 57 per cent for those who received CMT. Twenty-seven patients had a recurrence of lymphoma after initial treatment. Twenty patients (74 per cent) had recurrences outside the radiation treatment field; 90 per cent of these failures were in predictable sites that would be included in comprehensive lymphatic irradiation fields (Waldeyer's ring, mantle, and whole abdomen). No clear nose response was observed. Multivariate analysis showed that patients with tumours <five cm in diameter had improved cause-specific survival, absolute survival, and freedom from relapse compared with patients with tumours > or = five cm in diameter. CONCLUSIONS: Patients with non-Hodgkin's lymphoma in the head and neck with tumours > or five cm in diameter appear to have a worse prognosis than those with smaller tumours. The patterns of failure suggest that initial treatment with comprehensive lymphatic irradiation fields could potentially eliminate the majority of treatment failures.

Tympanic membrane displacement patterns in experimental cholesteatoma. von Unge, M., Decraemer, W. F., Dirckx, J. J., Bagger-Sjoback, D. The Department of Otorhinolaryngology, Karolinska Hospital and Karolinska Institute, Stockholm, Sweden. *Hearing Research* (1999) February, Vol. 128 (1–2), pp. 1–15.
Tympanic membrane (TM) stiffness changes in the pars tensa in response to experimentally induced ear canal cholesteatoma by obstruction of the ear canal were studied. To this aim TM displacement versus pressure was measured with a high resolution, differential moire interferometer. The measurements were performed on fresh, isolated gerbil temporal bones after removal of the cholesteatoma bulk. Besides an overall stiffness reduction we found that local stiffness variations were present in nine out of 18 studied ears. The stiffness changes as a function of time after ear canal obstruction had a pattern similar to those previously shown to develop in response to various forms of otitis media, showing that the TM stiffness properties decrease in a similar way in response to different inflammatory middle ear diseases. The stiffness changes correlated with an increased overall TM thickness and increased thickness of the lamina propria in particular as measured in histology sections. The stiffness changes may play an important role in the pathophysiology of cholesteatoma.

Repositioning the hereditary paraganglioma critical region on chromosome band 11q23. Baysal, B. E., van Schothorst, E. M., Farr, J. E., Grashof, P., Myssiorek, D., Rubinstein, W. S., Taschner, P., Cornelisse, C. J., Devlin, B., Devilee, P., Richard, C. W. 3rd. Department of Psychiatry, Western Psychiatric Institute and Clinic, University of Pittsburgh Medical Center, PA 15213-2593, USA. baysalbe+@pitt.edu. *Human Genetics* (1999) March, Vol. 104 (3), pp. 219–25.
Hereditary paragangliomas (PGL, glomus tumours, MIM no. 168000) are mostly benign, slow-growing tumours of the head and neck region. The gene (or genes) affecting risk to PGL are subject to genomic imprinting: children of affected fathers exhibit an autosomal dominant pattern of disease inheritance, whereas children of affected mothers rarely if ever develop the disease through maternal transmission. We previously confined the disease gene to an approximately 6 Mb critical region on chromosome band 11q23 (PGL1). Based on haplotype analysis of an extended Dutch pedigree, a 2 Mb sub-region between D11S938 and D11S1885 was proposed as the PGL1 critical interval. In this study, we excluded this interval by analysis of two new single tandem repeat polymorphisms (STRP) contained therein. Instead, we predicted a non-overlapping, more proximal 2 Mb critical interval between D11S1647 and D11S897, and evaluated this new region using nine STRP (D11S1986, five new, closely-linked STRP, D11S1347, D11S3178 and D11S1987). Consistent with our prediction, we observed substantial haplotype-sharing within the Dutch pedigree. We also analyzed four new American PGL families. A recombination event detected in one family further defined D11S1347 as the new telomeric border. We observed significant haplotype-sharing within this new interval among three unrelated American PGL families, strongly suggesting that they originated from a common ancestor. Thus, we confined PGL1 to an approximately 1.5 Mb region between D11S1986 and D11S1347, and showed identity-by-descent sharing for a group of American PGL families.

Risk factors for recurrent and residual cholesteatoma in children determined by second stage operation. Iino, Y., Imamura, Y., Kojima, C., Takegoshi, S., Suzuki, J. I. Department of Otolaryngology, Teikyo University School of Medicine, Tokyo, Japan. *International Journal of Pediatric Otorhinolaryngology* (1998) November 15, Vol. 46 (1–2), pp. 57–65.
OBJECTIVE: To clarify the risk factors for the development of recurrent and residual cholesteatoma in children. METHODS: We studied 84 ears of 83 children aged 10 years or younger who underwent a second stage operation one year after primary surgery with a canal wall reconstruction procedure, and analyzed the clinical risk factors for recurrent and residual cholesteatoma. RESULTS: Recurrent cholesteatoma was detected in 21 ears (25 per cent) and residual cholesteatoma was noted in 35 (42 per cent) of 84 ears. With respect to recurrent cholesteatoma, significant risk factors were determined to be male gender, pars flaccida type of cholesteatoma and the association of otitis media with effusion either in the side affected by cholesteatoma or on the opposite

side. On the other hand, congenital type of cholesteatoma was a significant negative risk factor. With respect to residual cholesteatoma, the only risk factor was a posterosuperior type of cholesteatoma. Residual cholesteatoma was sometimes found even when the surgeon had declared complete removal of the cholesteatoma matrix at the time of primary surgery. CONCLUSIONS: High incidence of recurrent and residual cholesteatoma was noted at the second stage operation. Occurrence of recurrent cholesteatoma is closely related to eustachian tube dysfunction. Thin and highly proliferative cholesteatoma matrix in children may be responsible for high occurrence of residual cholesteatoma. Therefore, planned staged surgery is preferable to single stage surgery for the treatment of pediatric cholesteatoma.

Outpatient management of acute mastoiditis with periosteitis in children. Niv, A., Nash, M., Peiser, J., Dagan, R., Einhorn, M., Leiberman, A., Fliss, D. M. Department of Otolaryngology, Soroka Medical Center, Ben Gurion University of the Negev, Beer Sheva, Israel. *International Journal of Pediatric Otorhinolaryngology* (1998) November 15, Vol. 46 (1–2), pp. 9–13.
Children with acute mastoiditis with periosteitis are conventionally hospitalized for parenteral antibiotics and/or surgical treatment. However, if possible, effective and safe outpatient treatment is desirable. During a 36-month period, outpatient parenteral antibiotic therapy (once daily i.m. ceftriaxone) was evaluated in 32 children with acute mastoiditis, with clinical evidence of periosteitis. Inclusion crteria included otomicroscopic evidence of acute otitis media (AOM), displacement of the pinna, retroauricular swelling, erythema and tenderness. The treatment consisted of wide myringotomy and administration of i.m. antibiotics. Daily visits, by a combined team of an otolaryngologist and pediatric infectious disease specialist, were considered essential. Fourteen children (43 per cent) were treated initially in the hospital (and subsequently as outpatients) and 18 (57 per cent) children were treated entirely as outpatients. Mean duration of outpatient treatment was seven days (range: four–10). The overall clinical cure rate was 96.8 per cent. One child underwent simple mastoidectomy. No serious side effects were observed. Our data suggests that many children with acute mastoiditis with periosteitis can be managed successfully and safely as outpatients by a combined team of otolaryngologists and infectious disease specialists.

Topical ofloxacin versus systemic amoxicillin/clavulanate in purulent otorrhea in children with tympanostomy tubes. Goldblatt, E. L., Dohar, J., Nozza, R. J., Nielsen, R. W., Goldberg, T., Sidman, J. D., Seidlin, M. Daiichi Pharmaceutical Corporation, Fort Lee, NJ 07024, USA. *International Journal of Pediatric Otorhinolaryngology* (1998) November 15, Vol. 46 (1–2), pp. 91–101.
Acute otitis media (AOM) in children with tympanostomy tubes in place typically presents with otorrhea (draining ear). Because therapy is not standardized, various topical and systemic antibiotics of unproven efficacy and safety have been used in this indication. This study compared the safety and efficacy of ofloxacin otic solution, 0.3 per cent (OFLX) with that of Augmentin oral suspension (AUG) in pediatric subjects one–12 years of age with tympanostomy tubes and acute purulent otorrhea. Subjects were randomized to receive 10 d of OFLX, 0.25 ml topically b.i.d., or of AUG, 40 mg/kg per day. Audiometry was performed in subjects > or = four years of age. Overall cure rate for clinically evaluable subjects was 76 per cent with OFLX (n = 140) and 69 per cent with AUG (n = 146, $p = 0.169$). Overall eradication rates for OFLX and AUG were similar for Streptococcus pneumoniae, Haemophilus influenzae and Moraxella catarrhalis and were superior with OFLX for Staphylococcus aureus and Pseudomonas aeruginosa ($p<0.05$ for both). OFLX had a greater overall pathogen eradication rate (96 per cent *vs.* 67 per cent; $p<0.001$). Treatment-related adverse event rates were 31 per cent for AUG and six per cent for OFLX ($p< 0.001$). Neither treatment significantly altered hearing acuity. Topical ofloxacin 0.3 per cent otic solution 0.25 ml b.i.d. was as effective and better tolerated than systemic therapy with Augmentin oral suspension 40 mg/kg per day in treating AOM in children with tympanostomy tubes.

Antibodies specific to outer membrane antigens of Moraxella catarrhalis in sera and middle ear effusions from children with otitis media with effusion. Takada, R., Harabuchi, Y., Himi, T., Kataura, A. Department of Otolaryngology, Sapporo Medical University School of Medicine, Japan. *International Journal of Pediatric Otorhinolaryngology* (1998) December 15, Vol. 46 (3), pp. 185–95.
OBJECTIVE: Recent studies have shown that bacterial DNA is present in a significant percentage of middle ear effusions, suggesting that persistent bacterial infection may be more important in pathogenesis and recurrence of otitis media with effusion (OME) than previously considered. Although Moraxella (M.) catarrhalis is one of the most common pathogens of otitis media, relatively little is known about immune response to the organism. The objective of the present study is to investigate how systemic and local immune activities against M. catarrhalis may be associated with severity of OME. METHODS: The antibody levels specific to outer membrane antigens of M. catarrhalis in sera and middle ear effusions (MEEs) from 59 children with OME were measured by enzyme-linked immunosorbent assay. Their ages ranged from one to 12 years with a median five years. The children were followed one year prospectively and classified into two groups with or without recurrent/persistent OME according to severity of OME during the follow-up one year. RESULTS: Serum IgG, IgM, and IgA antibodies specific to outer membrane antigens of M. catarrhalis were detected in all samples and the median levels were 35, 0.93, and 1.2 microg/ml respectively. The MEE IgG, IgM, IgA, and secretory IgA antibodies were detected in over 95 per cent samples tested and the median levels were 371, 158, 20 and 50 ng/mg total protein respectively. A comparison between acute and subacute/chronic phases revealed that the median levels of MEE IgG and IgM antibodies were higher at the acute phase (692 *vs.* 340, $p = 0.06$; 35 *vs.* 10, $p = 0.02$, respectively); while the MEE secretory IgA antibody level was increased at the subacute/chronic phase (74 *vs.* 35, $p = 0.02$). Either serum or MEE IgG antibody level was significantly lower in recurrent/persistent OME group than that in nonrecurrent/non-persistent OME group (13 *vs.* 43, microg/ml, $p = 0.009$; 238 *vs.* 577 ng/mg protein, $p = 0.006$, respectively). CONCLUSIONS: These data provide additional information on the immunologic aspects of children with OME. Decreased serum and MEE IgG antibody levels specific to outer membrane antigens of M. catarrhalis may lead to failure to eliminate this organism, resulting in persistent and/or recurrent appearance of MEE.

Variations in genetic assessment and recurrence risks quoted for childhood deafness: a survey of clinical geneticists. Parker, M. J., Fortnum, H., Young, I. D., Davis, A. C. MRC Institute of Hearing Research, University Park, Nottingham, UK. *Journal of Medical Genetics* (1999) February, Vol. 36 (2), pp. 125–30.
We report here the results of a questionnaire survey of consultant clinical geneticists in the United Kingdom to which we had an 81 per cent response rate. In this questionnaire we asked about: (1) the nature of services currently offered to families with hearing impaired children, (2) what recurrence risks they quoted in isolated non-syndromic cases, and (3) what they might suggest for improving the range of genetic services available at present. We noted great variation both in these services and in the recurrence risks quoted in isolated cases. Based on the results of the questionnaire, we have proposed a protocol for the investigation of permanent childhood hearing impairment, which we believe to be both comprehensive and practical in an outpatient clinic setting. It is only by improving existing clinical and social understanding and knowledge of childhood hearing impairment that it will become possible to use recent molecular advances to develop comprehensive and consistent services for these families.

Intraoperative monitoring during surgery for acoustic neuroma: benefits of an extratympanic intrameatal electrode. Mullatti, N., Coakham, H. B., Maw, A. R., Butler, S. R., Morgan, M. H. Department of Clinical Neurophysiology, Frenchay Hospital, Bristol BS16 1LE, UK. *Journal of Neurology, Neurosurgery and Psychiatry* (1999) May, Vol. 66 (5), pp. 591–9.
OBJECTIVES: To assess the utility of an extratympanic intrameatal electrode for intraoperative monitoring during acoustic neuroma and other cerebellopontine angle tumour surgery and to define the neurophysiological and surgical factors which influence hearing preservation. METHODS: Twenty two patients,

18 with acoustic neuromas and four with other cerebellopontine angle tumours, underwent intraoperative monitoring during tumour excision. The extratympanic intrameatal electrode (IME) was used to record the electrocochleogram (ECoG) and surface electrodes to record the brainstem auditory evoked response (ABR). RESULTS: The compound action potential (CAP) of the ECoG was two and a half times greater in amplitude than wave I of the ABR and was easily monitored. Virtually instant information was available as minimal averaging was required. Continuous monitoring was possible from the commencement of anaesthesia to skin closure. The IME was easy to place, non-invasive, and did not interfere with the operative field. Operative procedures which affected CAP or wave V latency or amplitude were drilling around the internal auditory meatus, tumour dissection, nerve section, and brainstem and cerebellar retraction. Hearing was achieved in 59 per cent of patients. CONCLUSIONS: The IME had significant benefits in comparison with other methods of monitoring. The technique provided information beneficial to preservation of hearing.

Report of 190 consecutive cases of large acoustic tumours (vestibular schwannoma) removed via the translabyrinthine approach. Lanman, T. H., Brackmann, D. E., Hitselberger, W. E., Subin, B. Neurosurgical Associates, Los Angeles, California, USA. *Journal of Neurosurgery* (1999) April, Vol. 90 (4), pp. 617–23.

OBJECT: The choice of approach for surgical removal of large acoustic neuromas is still controversial. The authors reviewed the results in a series of patients who underwent removal of large tumours via the translabyrinthine approach. METHODS: The authors conducted a database analysis of 190 patients (89 men and 101 women) with acoustic neuromas three cm or greater in size. The mean age of these patients was 46.1 ± 15.6 years. One hundred and seventy-eight patients underwent primary translabyrinthine surgical removal and 12 underwent surgery for residual tumour. Total tumour removal was accomplished in 183 cases (96.3 per cent). The tumour was adherent to the facial nerve to some degree in 64 per cent of cases, but the facial nerve was preserved anatomically in 178 (93.7 per cent) of the patients. Divided nerves were repaired by primary attachment or cable graft. Facial nerve function was assessed immediately after surgery, at the time of discharge, and at three to four weeks and one year after discharge. Excellent function (House-Brackmann facial nerve Grade I or II) was present in 55 per cent, 33.9 per cent, 38.8 per cent and 52.6 per cent of the patients for each time interval, respectively, with acceptable function (Grades I-IV) in 81 per cent at one year. Cerebrospinal fluid leakage that required surgical repair occurred in only 1.1 per cent of the patients and meningitis in 3.7 per cent. There were no deaths. CONCLUSIONS: Use of the translabyrinthine approach for removal of large tumours resulted in good anatomical and functional preservation of the facial nerve, with minimum incidence of morbidity and no incidence of mortality. The authors continue to recommend use of this approach for acoustic tumours larger than three cm and for smaller tumours when hearing preservation is not an issue.

Stereotactic radiosurgery in the management of acoustic neuromas associated with neurofibromatosis Type 2. Subach, B. R., Kondziolka, D., Lunsford, L. D., Bissonette, D. J., Flickinger, J. C., Maitz, A. H. Department of Neurological Surgery, Center for Image-Guided Neurosurgery, University of Pittsburgh Medical Center, Pennsylvania, USA. *Journal of Neurosurgery* (1999) May, Vol. 90 (5),pp. 815–22.

OBJECT: Stereotactically guided radiosurgery is one of the primary treatment modalities for patients with acoustic neuromas (vestibular schwannomas). The goal of radiosurgery, is to arrest tumour growth while preserving neurological function. Patients with acoustic neuromas associated with neurofibromatosis Type 2 (NF2) represent a special challenge because of the risk of complete deafness. To define better the tumour control rate and long-term functional outcome, the authors reviewed their 10-year experience in treating these lesions. METHODS: Forty patients underwent stereotactic radiosurgery at the University of Pittsburgh, 35 of them for solitary tumours. The other five underwent staged procedures for bilateral lesions (10 tumours, 45 total). Thirteen patients (with 29 per cent of tumours) had undergone a median of two prior resections. The mean tumour volume at radiosurgery was 4.8 ml, and the mean tumour margin dose was 15 Gy (range 12–20 Gy). The overall tumour control rate was 98 per cent. During the median follow-up period of 36 months, 16 tumours (36 per cent) regressed, 28 (62 per cent) remained unchanged, and one (two per cent) grew. In the 10 patients for whom more than five years of clinical and neuroimaging follow-up results were available (median 92 months), five tumours were smaller and five remained unchanged. Surgical resection was performed in three patients (seven per cent) after radiosurgery; only one showed radiographic evidence of progression. Useful hearing (Gardner-Robertson Class I or II) was preserved in six (43 per cent) of 14 patients, and this rate improved to 67 per cent after modifications made in 1992. Normal facial nerve function (House-Brackmann Grade 1) was preserved in 25 (81 per cent) of 31 patients. Normal trigeminal nerve function was preserved in 34 (94 per cent) of 36 patients. CONCLUSIONS: Stereotactically guided radiosurgery is a safe and effective treatment for patients with acoustic tumours in the setting of NF2. The rate of hearing preservation may be better with radiosurgery than with other available techniques.