

Abstract Selection

Benign paroxysmal positional vertigo (BPPV): idiopathic versus post-traumatic. Katsarkas, A. Department of Otolaryngology, Royal Victoria Hospital and McGill University, Montreal, Quebec, Canada. *Acta Oto-Laryngologica* (1999), Vol. 119 (7), pp. 745–9. Between October 1974 and August 1997 in our Dizziness Clinic (n = 15,233), 2,523 patients were found to suffer from BPPV. All patients were assessed and followed up by the author. Patients (n = 337) having other ear or neurological diseases were excluded from this retrospective study. In 1644/2186 (75.21 per cent) patients, the type of nystagmus was clinically identified in two opposite directions of gaze in the provocative head position. These patients were divided into two groups: i) idiopathic (n = 1,490) (no apparent cause); ii) post-traumatic (n = 154) (time of onset related to accident). It was found that in the idiopathic group men were older than women; women were more affected than men (2.3:1), and in the post-traumatic group there was no age difference between men and women; women and men were equally affected (1:1). In addition: i) patients were older in the idiopathic than the post-traumatic group. ii) BPPV of the posterior (PSC) was by far more prevalent than BPPV of the horizontal semicircular canal (HSC) in both groups, although there was no difference in prevalence between the two groups; iii) Bilateral involvement was more prevalent in the post-traumatic group. iv) All bilateral cases in both groups suffered from BPPV of the PSC. It is concluded that despite similarities, these two groups differ in a number of parameters. Thus the pathophysiology and the course of idiopathic vs post-traumatic BPPV may also be different.

Clinical utility of LDL-apheresis in the treatment of sudden hearing loss: a prospective, randomized study. Suckfull, M., Thiery, J., Schorn, K., Kastenbauer, E., Seidel, D. Department of Otorhinolaryngology, Head and Neck Surgery, Ludwig-Maxilians-University Munich, University Hospital Grosshadern, Germany. *suckfull@hno.med.uni-muenchen.de. Acta Oto-Laryngologica* (1999), Vol. 119 (7), pp. 763–6.

Although the pathogenesis of sudden hearing loss (SHL) is not as yet known, the clinical picture and the frequent association with vascular risk factors make an ischaemic event likely. This study aimed to assess the effect of an extracorporeal procedure (H.E.L.P.) in removing LDL-cholesterol, fibrinogen and lipoprotein (a) from the plasma, on the recovery of hearing SHL. This procedure using the HELP-system was compared with the usual standard treatment with prednisolone, dextranes and pentoxifyllin. We undertook a single centre, prospective, randomized study in which 18 patients were assigned to H.E.L.P.-apheresis and nine patients were assigned to standard treatment (2:1 randomization). Audiometric and laboratory testing was performed at baseline, 24 h and six weeks after start of treatment. Primary endpoint was the improvement of the average pure-tone threshold between 0.125 and 8 kHz after 24 h. Twenty-four hours after H.E.L.P. treatment average pure-tone threshold recovered by 10.4 dB and by 26.4 dB after six weeks. The recovery of hearing of the standard treated patients was 5.8 dB and 16.8 dB after 24 h and six weeks respectively. LDL-cholesterol, fibrinogen and lipoprotein (a) were significantly reduced in the HELP treated patients compared with standard therapy, resulting in a significant improve in plasma viscosity, erythrocyte aggregation and resistance to oxidative stress of LDL particles. Our results suggest that the clinical outcome of SHL after a single extracorporeal LDL-apheresis is superior or at least equal to the more excessive standard treatment with prednisolone, dextranes and pentoxifyllin. Re-establishment of vascular endothelial function and improved blood rheology may be the underlying cause. These results must be confirmed in larger-scale trials.

Cochlear hook anatomy: evaluation of the spatial relationship of the basal cochlear duct to middle ear landmarks. Stidham, K. R., Roberson, J. B. Jr. California Ear Institute at Stanford, Palo Alto 94304, USA. *Acta Oto-Laryngologica* (1999), Vol. 119 (7), pp. 773–7.

The cochlear hook is an important anatomical area for the otologist performing cochlear implants and other otological procedures, who requires knowledge of the basal cochlea. A total of 15 human temporal bones were dissected and the spatial relationship of the hook segment of the cochlear duct to the stapes, round window, cochleariform process and ductus reuniens were evaluated. Inter-individual variability was noted for widths of scala tympani (average width 1.36 ± 0.25 mm) and scala vestibuli (average width 1.18 ± 0.18 mm) in the region of typical cochlear implant placement, with the scales vestibuli occasionally being wider than the scala tympani. The cochlear duct was in closest proximity to the stapes at the midportion of the footplate, with an average distance of 1.23 mm at this narrowest width. A fibrous anchor, not previously described in otology literature, was identified securing the most basal end of the cochlear duct. Knowing the spatial relationship of the cochlear duct to the middle and inner ear structures could prevent damage to the basilar membrane in procedures around or involving the basal cochlear, such as cochlear implantation, stapedotomy, or implantable hearing devices.

Management of intrameatal vestibular schwannomas. Charabi, S., Thomsen, J., Tos, M., Mantonì, M., Charabi, B., Juhler, M., Borgesen, S. E. Department of Otolaryngology, Head and Neck Surgery, Gentofte University Hospital, Hellerup, Denmark. *Acta Oto-Laryngologica* (1999), Vol. 119 (7), pp. 796–800.

The growth of purely intrameatal vestibular schwannomas (VS) was investigated, in the period 1973–96 in a series of 40 patients with 40 unilateral VS. In the present study, the material was analysed and undated. By the end of the observation period (mean 3.6 years), 27 tumours (67.5 per cent) revealed growth and 13 tumours (32 per cent) had no measurable growth. Four growth patterns were observed: (A) 15 tumours (37.5 per cent) exhibited constant growth; (B) 13 tumours (32.5 per cent) had no measurable growth; (C) eight tumours (20 per cent) revealed growth subsequent to a no-growth period; and (D) four tumour (10 per cent) showed different growth patterns during the observation period. The annual diameter growth rate range between 0.0 mm/year and 6.5 mm/year and the mean diameter growth per years was 3.2 mm. The findings of the present study, especially those for group B (the non-growing tumours) and C (tumour growth subsequent to a silent period) bring into question the reliability of the results achieved by radiosurgery, as without any intervention it may be that no tumour growth occurs.

Continuous long-term measurements of the middle ear pressure in subjects with symptoms of patulous eustachian tube. Tideholm, B., Carlborg, B., Brattmo, M. Department of Oto-rhino-laryngology, Malmö University Hospital, Sweden. *bo.tideholm@oron.mas.lu.se. Acta Oto-Laryngologica* (1999), Vol. 119 (7), pp. 809–15.

Direct middle ear (ME) pressure measurements during 24 h and tubal function tests were performed on 11 subjects with the clinical diagnosis patulous Eustachian tube (PET). The pressure was recorded from the ME via a perforation in the tympanic membrane. The method used has previously been reported in a study on subjects with normal ME function and no symptoms of PET: a normal group. Results from tubal function tests correlated well with the clinical diagnosis of PET and the sniff test was positive in most subjects. Continuous ME pressure measurements during normal everyday and night-time activities showed no indications of pressure changes induced by sniffing. Subjects with the clinical diagnosis PET did not have a static state of an open ET. The ME pressure varied during the day and night, indicating that the function of the ET changed over time from a closed to an open state. Subjects with PET had a long-term pressure pattern significantly different from that of a normal group, a difference seen in the erect as well as in the recumbent position during the night. The subjects demonstrated a negative mean pressure level in the recumbent position during the night, whereas the normal

group had a slight positive mean pressure. The difference was statistically significant. Many subjects demonstrated frequent slow rate negative pressure trends during normal day-time and night-time activities. Long-term continuous pressure measurements seem to add valuable information to that of conventional tubal function tests.

A new practical classification of laryngeal view. Cook, T. M. Royal United Hospital, Combe Park, Bath BA1 3NG, UK. *Anaesthesia* (2000) March, Vol. 55 (3), pp. 274–9.

A new practical classification of laryngeal view at laryngoscopy is presented and evaluated. The best laryngeal view obtained with or without anterior laryngeal pressure is recorded. The laryngeal view is easy (E) when the laryngeal inlet is visible. The view is restricted (R) when the posterior glottic structures (posterior commissure or arytenoids) are visible or the epiglottis is visible and can be lifted; this includes some grade 2 and some grade 3 views as classified by Cormack and Lehane. A difficult (D) view is present when the epiglottis cannot be lifted or when no laryngeal structures are visible. Five hundred patients were studied. Laryngoscopy, with the patient anaesthetised and paralysed, was performed with a Macintosh laryngoscope. If the vocal cords were not visible, a gum elastic bougie was used to aid intubation. Other aids were used only if this did not allow intubation. Each laryngeal view was graded according to the new classification and that of Cormack and Lehane. Intubation was time and the equipment needed to facilitate intubation was recorded. The new classification stratified increasing difficulty with intubation (time for intubation longer and increasingly complex methods needed) better than the Cormack and Lehane classification. The new classification is as sensitive and more specific than the Cormack and Lehane classification in predicting difficult intubation. It is also more sensitive and more specific in predicting easy intubation.

Pre-operative evaluation of the lower extremity prior to microvascular free fibula flap harvest. Clemenza, J. W., Rogers, S., Magennis, P. Regional Maxillofacial Unit, Fazakerley Hospital, Liverpool, UK. clemenza@bellatlantic.net. *Annals of the Royal College of Surgeons of England* (2000) March, Vol. 82 (2), pp. 122–7. The microvascular free fibula flap, is currently one of the preferred methods for reconstruction of the oromandibular defect. The patency of the major vessels in the donor limb should be evaluated before the fibula is harvested because the blood supply can be inadequate to safely utilise this flap. The best method of evaluating, pre-operatively, the lower limb vasculature is controversial. Femoral angiography has been considered as the gold standard, however, the current literature advocates less invasive methods of assessment such as magnetic resonance angiography and colour flow Doppler. A postal questionnaire was sent to all members of The British Association of Head and Neck Oncologists asking details of the preferred method of lower limb vascular assessment prior to fibula flap harvest. Of 137 responses, 48 performed free fibula flaps. Of these 48 surgeons, the preferred method for evaluation was palpation of pulses combined with either angiography (40 per cent) or Doppler on the ward (38 per cent). None of this subgroup of surgeons utilized colour flow Doppler as a first line investigation despite this being available to 67 per cent of responders. This survey highlights the diversity in pre-operative assessment amongst surgeons performing fibula flaps for head and neck malignancy. Few relied on clinical examination alone; however, the less invasive methods of vascular imaging were seldom utilized.

Interleukin 8 in middle ear fluid during acute otitis media: correlation with aetiology and bacterial eradication. Leibovitz, E., Dagan, R., Laver, J. H., Pignansky, L., Raiz, S., Abboud, M. R., Fliss, D. M., Leiberman, A., Barzilay, A. The Pediatric Infectious Disease Unit, Soroka University Medical Center and Faculty of Health Sciences, Ben-Gurion University of the Negev, Beer-Sheva, 84101, Israel. *Archives of Disease in Childhood* (2000) February, Vol. 82 (2), pp. 165–8.

OBJECTIVES: To study the concentration of interleukin 8 (IL-8) in the middle ear fluid of children with acute otitis media and the association between IL-8 concentrations, aetiology of acute otitis media, and bacteriological sterilization. **STUDY DESIGN:** Middle ear fluid was obtained by tympanocentesis at enrollment (day one) and on day four to five in 81 children aged three to 36 months with acute otitis media who received antibiotic treatment. IL-8

concentrations were measured by enzyme linked immunosorbent assay. **RESULTS:** 101 samples were obtained on day one and 47 samples on day four and five. Ninety-four pathogens were isolated in 79 of 101 samples obtained on day one: 56 Haemophilus influenzae, 35 Streptococcus pneumoniae, two Moraxella catarrhalis, and one Streptococcus pyogenes. Among 40 paired, initially culture positive samples, sterilization was achieved on day four and five in 22 but not in 18 (13 H influenzae, two S pneumoniae, and three H influenzae and S pneumoniae concomitantly). IL-8 was detected in 96 of 101 and 46 of 47 samples obtained on days one and four to five, respectively. Mean (SD) IL-8 concentration on day one was significantly higher in culture positive than in negative samples (12,636 (23,317) v 5,920 (7,080) pg/ml). In paired samples, IL-8 concentration fell in 12 of 22 ears in which sterilization was achieved and in nine of 21 ears with persistent or new infection. Mean (SD) IL-8 concentrations on day four and five were significantly higher in culture positive than in negative samples (15,420 (15,418) v 6,695 (5,092) pg/ml). **CONCLUSIONS:** Higher IL-8 concentrations are found in culture positive middle ear fluid in acute otitis media. Bacterial eradication is associated with a fall in these concentrations.

Temporal bone computed tomography findings in bilateral sensorineural hearing loss. Bamiou, D. E., Phelps, P., Sirimanna, T. Audiology Department, Great Ormond Street Hospital for Sick Children, London WC1N 3JH, UK. doriseva@ndirect.co.uk. *Archives of Disease in Childhood* (2000) March, Vol. 82 (3), pp. 257–60.

AIM: To examine the yield of computed tomography (CT) of the temporal bones when investigating sensorineural hearing loss (SNHL) and to identify factors associated with CT findings. **METHODS:** Retrospective analysis of 116 consecutively investigated children with bilateral SNHL at the audiology department of Great Ormond Street Hospital, London. Main outcome measures were CT results, hearing loss parameters, history, and clinical examination. **RESULTS:** A total of 33 (28.4 per cent) CT scans were identified as abnormal. Children with profound and/or progressive hearing loss and/or craniofacial abnormalities were more likely to have an abnormal CT scan and together accounted for 25 abnormal CT scans. Sex, consanguineous parents, or family history of SNHL were not associated with CT findings. Dilated vestibular aqueduct was significantly correlated with SNHL should undergo progressive SNHL. **CONCLUSIONS:** All children with SNHL should undergo radiological investigation of the petrous bones/inner ear; abnormalities are more likely to be found in cases with craniofacial abnormalities, or profound or progressive hearing loss. The decision whether to perform a CT or magnetic resonance imaging will depend on scanner availability, expertise, and management considerations, but cochlear implant candidates will require both.

PH20: a novel tumour marker for laryngeal cancer. Godin, D. A., Fitzpatrick, P. C., Scandurro, A. B., Belafsky, P. C., Woodworth, B. A., Amedee, R. G., Beech, D. J., Beckman, B. S. Department of Otolaryngology–Head and Neck Surgery, Tulane University School of Medicine, New Orleans, LA 70112, USA. *Archives of Otolaryngology–Head and Neck Surgery* (2000) March, Vol. 126 (3), pp. 402–4.

OBJECTIVE: To determine whether levels of PH-20, a hyaluronidase similar to that found in human sperm, are elevated in laryngeal cancer tissue. **DESIGN:** In this case-control study, reverse transcription polymerase chain reaction was used to measure levels of PH-20 messenger RNA in tissue taken from laryngectomy specimens. **SETTING:** A university medical center. **PATIENTS:** We compared tissue samples taken from 11 patients with laryngeal cancer, and from two metastatic lymph nodes, with samples of normal, healthy laryngeal tissue and prostate cancer tissue (positive control). **MAIN OUTCOME MEASURE:** PH-20 complementary DNA expression as quantified by densitometric analysis. **RESULTS:** Expression of PH-20 was significantly higher in nonirradiated laryngeal cancer specimens than in normal laryngeal tissue ($p < 0.01$). Metastatic lymph nodes also had higher levels of PH-20 expression than did primary laryngeal cancer tissue ($p = 0.11$) and normal laryngeal tissue ($p < 0.01$). Irradiated laryngeal cancer specimens had PH-20 levels comparable to normal. **CONCLUSIONS:** We report the first date on PH-20 expression in laryngeal cancer tissue. PH-20 expression is significantly elevated in primary laryngeal cancer tissue and seems

to be even higher in metastatic lesions compared with normal laryngeal tissue. PH-20 may be a useful tumour marker and prognostic tool for laryngeal cancer.

Aerobic and anaerobic bacteriology of concurrent chronic otitis media with effusion and chronic sinusitis in children. Brook, I., Yocum, P., Shah, K. Department of Pediatrics, Georgetown University School of Medicine, Washington, DC, USA. dribrook@yahoo.com. *Archives of Otolaryngology-Head & Neck Surgery* (2000) February, Vol. 126 (2), pp. 174-6.

OBJECTIVE: To correlate the aerobic and anaerobic microbiologic findings of concurrent chronic otitis media with effusion and chronic maxillary sinusitis. **METHODS:** Cultures were obtained from 32 children with concurrent chronic otitis media with effusion and maxillary sinusitis who underwent tympanostomy tube placement. **RESULTS:** A total of 42 isolates, 24 aerobic and 18 anaerobic, were recovered from 30 of 42 isolates, 24 aerobic and 18 anaerobic, were recovered from 30 patients; 27 were isolated from both sites, four from the ear only, and 11 from the sinus only. The most common isolates were *Haemophilus influenzae* (nine isolates), *Streptococcus pneumoniae* ($n=7$), *Prevotella* species ($n=8$), and *Peptostreptococcus* species ($n=6$). Microbiological concordance between the ear and sinus was found in 22 (69 per cent) of culture-positive patients. **CONCLUSION:** The concordance in recovery of organisms in more than two thirds of the patients illustrates the common bacterial etiology between chronic otitis media with effusion and chronic sinusitis in children.

Oropharyngotonsillitis associated with nonprimary Epstein-Barr virus infection. Yoda, K., Sata, T., Kurata, T., Aramaki, H. Department of Otorhinolaryngology, Daini Hospital, Tokyo Women's Medical University, Japan. *Archives of Otolaryngology-Head and Neck Surgery* (2000) February, Vol. 126 (2), pp. 185-93. **OBJECTIVE:** To identify distinct clinical features of pharyngotonsillitis or oropharyngitis associated with Epstein-Barr virus (EBV) infection from herpes simplex virus infection. **DESIGN:** Clinical studies by case exploration. **SETTING:** Institutional practice at a university hospital. **PATIENTS:** Thirty-three patients with pharyngotonsillitis and four patients with oropharyngitis of nonbacterial infection underwent biopsy of pharyngotonsillar lesions. **MAIN OUTCOME MEASURE:** The specimens were examined by histopathology, immunohistochemistry, in situ hybridization, and polymerase chain reaction. In addition to serological testing and routine laboratory data, photographic oropharyngeal findings were collected for clinical evaluation. **RESULTS:** In situ hybridization to detect EBV-encoded small nuclear RNA-1 and -2 disclosed eight cases of pharyngotonsillitis and four cases of oropharyngitis associated with EBV infection. Immunohistochemical analysis identified five cases of pharyngotonsillitis associated with herpes simplex virus infection. Serological examination showed that, among 12 cases positive by in situ hybridization, three cases were primary infection with infectious mononucleosis and nine were nonprimary infection. The staining pattern of in situ hybridization was different, i.e. a linear pattern in cases of nonprimary infection and a scattered pattern in cases of primary infection. The clinical manifestations of EBV pharyngotonsillitis were distinct from those of herpes simplex virus pharyngotonsillitis and were characteristic irrespective of infectious status, while those of EBV oropharyngitis were more variable. **CONCLUSIONS:** Epstein-Barr virus-associated pharyngotonsillitis was demonstrated in patients with nonprimary infection unaccompanied by infectious mononucleosis. Epstein-Barr virus should be considered a potential causative agent of oropharyngotonsillitis even in absence of infectious mononucleosis, especially in a young adult.

Primary care based randomized, double blind trial of amoxicillin versus placebo for acute otitis media in children aged under two years. Damoiseaux, R. A., van Balen, F. A., Hoes, A. W., Verheij, T. J., de Melker, R. A. Department of General Practice, University Medical Centre, Universiteitsweg 100, 3584 CG Utrecht, Netherlands. Damoiseaux@med.uu.nl. *British Medical Journal* (2000) February 5, Vol. 320 (7231), pp. 350-4.

OBJECTIVE: To determine the effect of antibiotic treatment for acute otitis media in children between six months and two years of age. **DESIGN:** Practice based, double blind, randomized, placebo controlled trial. **SETTING:** 53 general practices in the Netherlands.

SUBJECTS: 240 children aged six months to two years with the diagnosis of acute otitis media. **INTERVENTION:** Amoxicillin 40 mg/kg/day in three doses. **MAIN OUTCOME MEASURES:** Persistent symptoms at day four and duration of fever and pain or crying, or both. Otoscopy at days four and 11, tympanometry at six weeks, and use of analgesics. **RESULTS:** Persistent symptoms at day four were less common in the amoxicillin group (risk difference 13 per cent; 95 per cent confidence interval one per cent to 25 per cent). The median duration of fever was two days in the amoxicillin group versus three in the placebo group ($p=0.004$). No significant difference was observed in duration of pain or crying, but analgesic consumption was higher in the placebo group during the first 10 days (4.1 v 2.3 doses, $p=0.004$). In addition, no otoscopic differences were observed at days four and 11, and tympanometric findings at six weeks were similar in both groups. **CONCLUSIONS:** Seven to eight children aged six to 24 months with acute otitis media needed to be treated with antibiotics to improve symptomatic outcome at day four in one child. This modest effect does not justify prescription of antibiotics at the first visit, provided close surveillance can be guaranteed.

Esophageal cytology in the follow-up of patients with treated upper aerodigestive tract malignancies. Leoni-Parvex, S., Mihaescu, A., Pellanda, A., Monnier, P., Bosman, F. T. Institute of Pathology, Centre Hospitalier Universitaire Vaudois Hospital Lausanne, Switzerland. *Cancer* (2000) February 25, Vol. 90 (1), pp. 10-6.

BACKGROUND: Patients with an history of carcinoma of the upper aerodigestive tract are at high risk for recurrence or the development of new tumours in this region. In the majority of follow-up protocols, these patients undergo radiologic and endoscopic evaluation as a means of surveillance for the early detection of recurrence. The brush biopsy-capsule technique represents a noninvasive and inexpensive screening device for this patient population. In the current study, the authors retrospectively assessed the sensitivity, specificity, and predictive value of esophageal brush-capsule cytology for the detection of malignant lesions of the upper aerodigestive tract in this high risk patient population. **METHODS:** Cytologic specimens from 334 patients with previously treated upper aerodigestive malignancies were available for review. The cytologic, endoscopic, and clinical follow-up of each case were studied over a follow-up period of three years. Gold standard was the clinical follow-up for the negative cases (who were not submitted to biopsy) and biopsy for the positive cases. Sensitivity, specificity, and predictive value were calculated. **RESULTS:** Using cytology 33 malignancies were detected in 25 patients during a three-year follow-up period. The test was found to have a sensitivity of 88.7 per cent and a specificity of 90.7 per cent. In 66 per cent of cases the malignancies were located in the oropharynx; the others were located in the esophagus. In 70 per cent of cases the malignancies were detected at an early stage. **CONCLUSIONS:** Esophageal brush-capsule cytology is a simple noninvasive technique that has been proven to be useful in the early detection of metachronous and recurrent neoplasms in the follow-up of patients with previously treated carcinomas of the ear, nose, and throat.

A cluster of acoustic neuromas in fish hatchery workers. Page, E. H. National Institute for Occupational Safety and Health, Centers for Disease Control and Prevention, Cincinnati, OH 45226-1998, USA. edp7@cdc.gov. *Ear, Nose And Throat Journal* (2000) January, Vol. 79 (1), pp. 34-7.

The National Institute for Occupational Safety and Health (NIOSH) received a request from the United States Fish and Wildlife Service (FWS) to determine if there is a relationship between acoustic neuroma and fish hatchery work. The request was triggered by a report from an FWS employee who suspected the possibility of such an association. Investigators used data provided by the personnel office of the FWS to calculate the incidence of acoustic neuroma among fish hatchery workers, and then to compare it with national rates. Four confirmed cases of acoustic neuroma were found among former fish hatchery workers. The overall incidence was estimated to be 15.41 per 100,000 person-years. This rate is more than 15 times higher than the rate among the general population. Even so, the small number of cases, as well as other factors, preclude the NIOSH from concluding that there is a definite cause-and-effect relationship. Further study is warranted.