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Abstract selection

Effect of erythromycin on otitis media with effusion in experimental rat model. Enomoto, F., Ichikawa, G., Nagaoka, I., Yamashita, T. Department of Otorhinolaryngology, Juntendo University School of Medicine, Tokyo, Japan. *Acta Oto-Laryngologica* (Suppl) (1998) Vol. 539, pp. 57–60.
To understand the mechanism of erythromycin (EM) on otitis media with effusion, we examined its effects on leukocyte accumulation and expression of adhesion molecules L-selectin and Mac-1, using a rat experimental model. Administration of EM inhibited leukocyte (neutrophil) accumulation in the middle ear cavity after LPS stimulation. Moreover, EM downregulated L-selectin expression and inhibited interleukin (IL)-8-induced upregulation of Mac-1 on peripheral blood neutrophils. These findings suggest that EM may improve otitis media with effusion by inhibiting neutrophil accumulation in the middle ear cavity through modulating the expression of adhesion molecules L-selectin and Mac-1 on peripheral blood neutrophils. Author.

Immunohistochemical examination of NOS and SOD in nasal mucosa. Sawada, T., Nishimura, T., Saki, M., Nagatsu, I. Department of Otolaryngology, Fujita Health University, Second Affiliated Hospital Nagoya, Aichi, Japan. *Acta Oto-Laryngologica* (Suppl) (1998) Vol. 539, pp. 83-6.
An immunohistochemical examination was performed to detect the localization of neural-type nitric oxide synthase (nNOS), endothelial-type NOS (eNOS) and inducible-type NOS (iNOS) in the human and mouse nasal mucosa. nNOS-immunoreactive nerve fibres were found in the subepithelial layer and around the seromucous glands of mice. In these fibers, immunodouble staining revealed co-localization of nNOS and superoxide dismutase (SOD). In the human nasal mucosa of normal subjects, strong eNOS immunoreactivity and weak iNOS immunoreactivity were found in the columnar epithelium. Author.

Onset of action of mometasone furoate nasal spray (NASONEX) in seasonal allergic rhinitis. Berkowitz, R. B., Bernstein, D. I., LaForce, C., Pedinoff, A. J., Rooklin, A. R., Damaraju, C. R., Mesarina-Wicki, B., Nolop, K. B. Atlanta Allergy and Immunology Research Foundation, GA, USA. *Allergy* (1999) January, Vol. 54 (1), pp. 64–9.
BACKGROUND: Mometasone furoate nasal spray (MFNS, NASONEX), is a new synthetic corticosteroid with considerable efficacy in the treatment of seasonal and perennial rhinitis and less than 0.1 per cent systemic absorption. This study was designed to evaluate the time of onset of action of MFNS. The subjects were evaluated over the course of two weeks during the spring allergy season. METHODS: The effects of MFNS 200 microg given once daily for two weeks were evaluated in a randomized, multicentre, double-blind, placebo-controlled study in 201 patients with seasonal allergic rhinitis. Clinically significant onset of action was assessed prospectively by special patient diary cards kept during the first three days of treatment. RESULTS: By 12 h after initial dosage (the earliest evaluation), 28 per cent of patients in the MFNS group experienced clinically significant relief, compared with 13 per cent of those given placebo ($p = 0.01$). Median time to at least moderate symptom relief in patients who received MFNS was 35.9 h, compared with more than 72 h in patients given placebo ($p<0.01$). By 72 h, 64 per cent of the patients receiving MFNS experienced at least moderate relief, compared with 40 per cent of those treated with placebo ($p<0.01$). Both patient and physician ratings of symptom severity, response to treatment, and overall condition of rhinitis indicated significant ($p<0.01$) superiority of MFNS over placebo. MFNS was well tolerated, with adverse events comparable to placebo. CONCLUSIONS: MFNS provided rapid onset of clinically significant symptom relief in patients with seasonal allergic rhinitis. Author.

Family with low-grade neuroendocrine carcinoma of salivary glands, severe sensorineural hearing loss, and enamel hypoplasia. Michaels, L., Lee, K., Manuja, S. L., Soucek, S. O. Department of Histopathology, UCL Medical School, and Royal National Throat, Nose and Ear Hospital, Royal Free Hospital Trust, London, United Kingdom. l.michaels@ucl.ac.uk. *American Journal of Medical Genetics* (1999) March 19, Vol. 83 (3), pp. 183–6.
Four sibs in a family on the Isle of Man, two brothers and two sisters ranging in age from 33 to 45 years, presented with low-grade malignant tumours of the submandibular gland in three cases and of the nasal cavities and maxillary sinuses in one. The neoplasms were all of the same histological type, apparently hitherto undescribed, showing well-differentiated neoplastic ducts, surrounded by neoplastic myoepithelial cells, together with sheets of epithelial cells expressing neuroendocrine markers by immunohistochemistry. Cervical neck mode metastases have developed in all four cases. In the sib with a primary sinonasal neoplasm, widespread bloodstream metastases also became manifest and a single such metastasis in his brother. All four sibs have severe enamel hypoplasia and the same lesion is present in five of their 11 children. In the two male patients, severe sensorineural hearing loss has developed in adult life, unilateral in the left ear in one brother, bilateral in the other. In the brother with bilateral sensorineural hearing loss, magnetic resonance imaging revealed a vestibular schwannoma on the left side, which is currently under treatment. The inherited hearing loss is thought to be unilateral in this case also. Author.

Fluctuating sensorineural hearing loss associated with enlarged vestibular aqueduct maps to 7q31, the region containing the Pendred gene. Abe, S., Usami, S., Hoover, D. M., Cohn, E., Shinkawa, H., Kimberling, W. J. Department of Otorhinolaryngology, Hirosaki University School of Medicine, Japan. *American Journal of Medical Genetics* (1999) February 12, Vol. 82 (4), pp. 322–8.
The most common form of inner ear abnormality, enlarged vestibular aqueduct (EVA), is of particular interest because it is associated with characteristic clinical findings, including fluctuating and sometimes progressive sensorineural hearing loss and disequilibrium symptoms. Although EVA has been reported to be inherited in a recessive manner, nothing else is known about the genetic basis of this hearing loss. Here we report on the localization of the gene responsible for sensorineural hearing loss associated with EVA to chromosomal region 7q31, with maximum multipoint LOD score of 3.647. The EVA candidate gene region lies in a 1.7 cM interval between the flanking markers D7S501 and D7S2425. Interestingly, this region overlaps the region containing the gene responsible for Pendred syndrome, called PDS, which was identified recently. However, the present subjects did not fulfill the criteria for Pendred syndrome. It is hypothesized that different mutations within the PDS gene may cause different phenotypes ranging from EVA to the Mondini deformity seen in Pendred syndrome. Author.

Chronic inflammatory ear disease and cholesteatoma: creation of auxiliary attic aeration pathways by microdissection. Palva, T., Ramsay, H. Department of Otolaryngology, University of Helsinki, Finland. *American Journal of Otology* (1999) March, Vol. 20 (2), pp. 145–51.
HYPOTHESIS: The attic compartments, except for Prussak's space, are aerated through the tympanic isthmus. The aim of this study was to develop aeration pathways that would bypass the isthmus in surgery for chronic inflammatory ear disease and cholesteatoma. BACKGROUND: Microdissection of the epitympanum has shown that the anterior attic and the supratubal recess are separated by the tensor fold, the excision of which creates a

large new aeration pathway. METHODS: Earlier surgical experience was reexamined as to the access to the tensor fold. Twenty temporal bones were dissected to create clinically useful new surgical routes for tensor fold removal in the presence of an intact ossicular chain. RESULTS: An endaural atticotomy, extended to the supratubal recess, allows excision of the tensor fold; however, the excision must be performed blindly. Cutting the neck of the malleus to allow lateral lifting of the manubrium exposes the tensor tendon and allows rapid excision of the fold. The elasticity of the tendon assists in approximation of the cut edges. In canal wall up surgery, removal of the lateral attic bone until the root of the zygoma exposes the anterior surface of the head of the malleus and the lateral portion of the transverse crest. Drill-out of the crest leads directly to the posterior side of the tensor fold, allowing its excision under direct vision. Thinning of the attic bone lateral to the body and short process of the incus allows simultaneous removal of the lateral incudomalleal fold. CONCLUSIONS: When the ossicular chain is discontinuous, tensor fold resection can be made under direct vision. With an intact chain, cutting of the neck of the malleus used in tympanic glomus tumours causes no hearing changes, allows complete fold excision, and is adaptable to chronic ear surgery. The frontolateral attic route for removal of tensor fold, together with the lateral incudomalleal fold, can be used in the canal wall up surgery to improve attic aeration. Author.

Aural cholesteatoma: role of tumour necrosis factor-alpha in bone destruction. Sastry, K. V., Sharma, S. C., Mann, S. B., Ganguly, N. K., Panda, N. K. Department of Otolaryngology and Head and Neck Surgery, Postgraduate Institute of Medical Education and Research, Chandigarh, India. *American Journal of Otology* (1999) March, Vol. 20 (2), pp. 158–61.
HYPOTHESIS: The bone destruction in cholesteatoma is multifactorial. This study was undertaken to define the role of tumour necrosis factor-alpha (TNF-alpha) in bone destruction associated with cholesteatoma. BACKGROUND: Tumour necrosis factor-alpha is an important inflammatory cytokine secreted by activated macrophages. It stimulates keratinocytes as an autocrine growth regulator. Few authors have localized TNF-alpha in aural cholesteatoma. An attempt was made in this study to show a correlation between TNF-alpha and cholesteatoma associated bone destruction by localizing TNF-alpha in cholesteatoma and measuring its serum level. METHODS: Serum TNF-alpha levels were measured in 20 patients with cholesteatoma of temporal bone and histochemical staining was used to localize TNF-alpha in pathologic tissue excised at surgery. RESULTS: Serum TNF-alpha levels in patients with cholesteatoma were significantly higher than in controls. In addition, TNF-alpha levels in patients with bone destruction were higher than in those without bone destruction. However, there was no correlation between age of the patient and serum TNF-alpha levels. The TNF-alpha was localized in various layers of cholesteatoma epithelium using indirect immunoperoxidase staining. CONCLUSION: TNF-alpha is one of the cytokines produced by cholesteatoma that may be an important mediator of bone destruction associated with cholesteatoma. TNF-alpha has been localized in various layers of cholesteatoma and exerts a locally destructive effect on bone. Serum TNF-alpha levels are related to the extent of bone destruction. Author.

Does otosclerosis occur only in the temporal bone? Wang, P. C., Merchant, S. N., McKenna, M. J., Glynn, R. J., Nadol, J. B. Jr. Department of Otolaryngology, Massachusetts Eye and Ear Infirmary, Harvard Medical School, Boston 02114, USA. *American Journal of Otology* (1999) March, Vol. 20 (2), pp. 162–5.
HYPOTHESIS: Otosclerosis does not occur outside the temporal bone. BACKGROUND: The widely accepted assumption that otosclerosis is confined to the temporal bone has never been tested. It is important to investigate this issue, particularly because of evidence that otosclerosis may be a systemic (genetic) disease that could affect other bones. METHODS: Biopsies from nine to 11 skeletal sites were obtained from two patients with clinical otosclerosis. Two hundred forty-one nontemporal bone sections were examined by light microscopy. RESULTS: No nontemporal skeletal bone section showed histologic evidence of otosclerosis. The data indicate, with 95 per cent confidence, that the true prevalence of otosclerosis in the extratemporal skeleton of the two patients examined was <three per cent. CONCLUSIONS: These findings suggest that otosclerosis is unlikely to occur outside the temporal bone. Factors unique to the otic capsule that may predispose it to otosclerosis are lack of bone remodelling and the presence of globuli interossei. Author.

Cochlear implantation in children with large vestibular aqueduct syndrome. Au, G., Gibson, W. University of New South Wales, Sydney, Australia. *American Journal of Otology* (1999) March, Vol. 20 (2), pp. 183–6.
OBJECTIVE: This study describes the effectiveness of a multielectrode cochlear implant prosthesis (Cochlear; Cochlear Pty., Lane Cove, Australia) for providing hearing to children with deafness caused by large vestibular aqueduct syndrome (LVAS). STUDY DESIGN: The study design was a retrospective study. SETTING: All the children attended The Children's Cochlear Implant Center (NSW), which is a specialist centre that provides audiologic testing, speech therapy, habilitation, and medical assistance for children with cochlear implants. PATIENTS: Ten children were studied who had profound hearing loss and radiologic evidence of a vestibular aqueduct larger than 2 mm in width in its intraosseous portion. INTERVENTION: The children received a multielectrode (Cochlear) cochlear implant prosthesis, and the associated programming of the device and habitation were performed postoperatively. No significant problems were encountered at any of the surgeries, although there was an initial gush of perilymph when the otic capsule was opened in seven ears. MAIN OUTCOME MEASURES: Postoperative audiologic performance at six monthly intervals and school performance were assessed. RESULTS: The postoperative auditory performance was improved in all children. At six months, their average BKB score had increased from 31 per cent to 79 per cent; average word score, from eight per cent to 43 per cent; and average phoneme score, from 38 per cent to 70 per cent. The older children were able to continue their education in their usual setting with less reliance on hearing support staff. CONCLUSION: Children with a deteriorating hearing loss caused by LVAS can derive considerable benefit from a cochlear implant. Author.

Successful cochlear implantation in a patient with MELAS syndrome. Rosenthal, E. L., Kileny, P. R., Boerst, A., Telian, S. A. Department of Otolaryngology – Head and Neck Surgery, The University of Michigan, Ann Arbor, USA. *American Journal of Otology* (1999) March, Vol. 20 (2), pp. 187–90.
OBJECTIVE: To describe methods of assessing cochlear implant candidacy in patients with potentially significant peripheral and central nervous system (CNS) degeneration. STUDY DESIGN: A patient with a degenerative CNS disease (MELAS syndrome) undergoing evaluation for cochlear implantation is described. SETTING: This study took place at a tertiary care centre. PATIENT: A patient with mitochondrial encephalopathy, lactic acidosis, and stroke-like episodes (MELAS) who had cortical blindness and profound sensorineural hearing loss was evaluated and rehabilitated with cochlear implantation. INTERVENTIONS: Pure-tone audiogram, behavioural responses to promontory stimulation electrical auditory brainstem response, and electrically evoked middle-latency responses (MLRs) were used to assess eighth nerve, auditory brainstem, and cortical auditory pathways. Cochlear implantation with Cochlear Corporation mini 22 implant was performed. RESULTS: Repeatable electrically evoked MLRs and behavioural responses to promontory stimulation documented the presence of auditory cortical responses. Successful implantation resulted in open set speech recognition and communication using the auditory/oral mode. CONCLUSION: This report describes successful implantation in a patient with MELAS syndrome and demonstrates the ability to preoperatively confirm the integrity of brainstem and cortical auditory pathways despite significant CNS degeneration. Author.

Intratympanic gentamicin for control of vertigo in Meniere's disease: vestibular signs that specify completion of therapy. Minor, L. B. Department of Otolaryngology – Head and Neck Surgery, The Johns Hopkins University School of Medicine, Baltimore, Maryland 21203, USA. *American Journal of Otology* (1999) March, Vol. 20 (2), pp. 209–19.
OBJECTIVE: To determine if a protocol of weekly intratympanic gentamicin injections administered until development of signs of unilateral vestibular hypofunction can alleviate vertigo while preserving hearing in patients with intractable vertigo caused by unilateral Meniere's disease. STUDY DESIGN: The study design

was a prospective investigational protocol. SETTING: The study was performed in outpatients at a tertiary referral centres. PATIENTS: Entry criteria included a diagnosis of 'definite' Meniere's disease according to the 1995 report of the American Academy of Otolaryngology – Head and Neck Surgery (AAO-HNS), intractable vertigo despite optimal medical therapy, no symptoms suggestive of Meniere's disease in the contralateral ear and serviceable hearing in the contralateral ear. The outcomes of the first 34 patients who entered the protocol are reported. INTERVENTION: A buffered gentamicin solution was injected into the middle ear at weekly intervals until development of spontaneous nystagmus, head-shaking-induced nystagmus, or head-thrust sign indicative of vestibular hypofunction in the treated ear. MAIN OUTCOME MEASURE: The 1995 AAO-HNS criteria for reporting treatment outcome in Meniere's disease were used. The effects of treatment were assessed in terms of control of vertigo, disability status, hearing level, and quantitative measurement of vestibular function with caloric and rotatory chair tests. RESULTS: Vertigo was controlled in 91 per cent of the patients. Profound hearing loss occurred as a result of gentamicin injection in one patient (three per cent). Intratympanic gentamicin was significantly less effective in controlling vertigo in patients who had previous otologic surgery on the affected ear. Recurrence of vertigo > or = six months after initially complete control was noted in seven patients (22 per cent). Vertigo in six of these patients was eliminated by additional intratympanic gentamicin injections. CONCLUSIONS: Ending weekly intratympanic gentamicin injections when clinical signs of unilateral vestibular hypofunction appear can control vertigo in most patients. Hearing loss directly attributable to gentamicin is uncommon. Treatment outcome is best in patients who have not had previous otologic surgery . Author.

The growth of acoustic neuromas in volumetric radiologic assessment. Niemczyk, K., Vaneecloo, F. M., Lemaitre, L., Lejeune, J. P., Skarzynski, H., Dubrulle, F., Vincent, C. Department of Otology and Oto-Neurology, University Regional Hospital Center of Lille, France. *American Journal of Otology* (1999) March, Vol. 20 (2), pp. 244–8.
OBJECTIVE: The volumetric assessments of neuroma were applied for radiologic observation of tumour growth. The hypothesis that most of neuromas are stable or show only slight growth was tested. STUDY DESIGN: This was an observational study. SETTING: The study was performed in the university centres. PATIENTS: The study group included 27 patients with 15 unilateral tumours and 12 bilateral tumours. All patients had at least two magnetic resonance imaging (MRI) examinations, and the average interval between initial and control examinations was 11.4 months. MAIN OUTCOME MEASURE: Volume measurements were performed on T1-weighted MRI spin echo sequences after injection of gadolinium using special software. Growth of the tumours was estimated by comparison of the results of three measurements from the initial and control MRI examinations. RESULTS: The growth was confirmed in 17 of 27 tumours (63 per cent). Growth was found in 10 of 12 neuromas of neurofibromatosis type 2 (83.7 per cent). In 15 unilateral neuromas, growth was found in seven (43 per cent). Unilateral neuromas were observed for a shorter period of time (6.3 months) than bilateral tumours (14.7 months). The correlation between a neuroma volume gain and the follow-up period was statistically significant ($p = 0.003$, $r = 0.544$). CONCLUSIONS: The growth of tumours can be confirmed despite a short follow-up period. Author.

Case report and discussion of hearing preservation after translabyrinthine excision of small acoustic tumours. Rizvi, S. S., Goyal, R. N. Bay Medical Center, Department of Otolaryngology, Bay City, Michigan, USA. *American Journal of Otology* (1999) March, Vol. 20 (2), pp. 249–52.
OBJECTIVE: Since 1991, three separate reports have shown how hearing may be salvaged after translabyrinthine excision of small acoustic tumours. The authors submit yet another report of a complete translabyrinthine excision of a 1.4 cm intracanalicular acoustic tumour with modest hearing preservation. An attempt is made to retrace the steps of the operation and recognize and discuss what particular events may have safeguarded the viability of the cochlea. With the availability of cochlear implantation, there should be added incentive to preserve the cochlear neurones if hair cells cannot be saved. STUDY DESIGN: The study design was a retrospective case review. SETTING: The study was conducted at a primary care hospital. INTERVENTION: Therapeutic and rehabilitative measures were performed. MAIN OUTCOME MEAURES: Hearing preservation was measured. CASE REPORT: A 55-year-old woman presented with a left-sided hearing loss and a 1.4 cm left acoustic tumour completely filling the internal auditory canal (speech reception threshold (SRT) 30 dB, discrimination (Pb) 28 per cent). A successful translabyrinthine excision of the tumour was performed in November 1995. A one-year postoperative audiogram showed a mixed hearing loss in the left ear with SRT 85 dB and Pb 0 per cent. Average pure-tone threshold for 500 Hz, 1 kHz and 3 kHz was 50 dB and aided SRT 40 dB with Pb 64 per cent. Postoperative magnetic resonance imaging confirmed complete excision of the tumour. CONCLUSION: An exceptional case of hearing preservation after translabyrinthine excision of a small acoustic tumour illustrates how it may be possible to preserve cochlear hair cells and neurones simultaneously in certain selected cases. A review of the surgical events shows the value of sealing the cochlear duct with bone wax, selectively removing the vestibular nerves with the tumour by sharp dissection, and safeguarding the meatal segment of the anterior inferior cerebellar artery by a limited dural incision. Author.

Study of systemic lupus erythematosus in temporal bones. Sone, M., Schachern, P. A., Paparella, M. M., Morizono, N. Otitis Media Research Center, Department of Otolaryngology, University of Minnesota School of Medicine, Minneapolis, USA. *Annals of Otology, Rhinology and Laryngology* (1999) April, Vol. 108 (4), pp. 338–44.
Despite some reports of sensorineural hearing loss with systemic lupus erythematosus (SLE), its pathologic correlate has remained unidentified due to the scarcity of human temporal bone studies. We here present findings in 14 temporal bones from seven patients with SLE, examined histologically and immunohistochemically for pathologic conditions in the cochlea that might relate to their otologic histories. Blue-staining concretions were seen in the stria vascularis of six ears. Most of the cases showed a loss of spiral ganglion cells, with various degrees of hair cell loss and atrophy of the stria vascularis. One ear demonstrated formation of fibrous tissue and bone throughout the cochlea, with complete loss of the membranous labyrinth. Cochlear hydrops was found in only one ear. These findings in temporal bones from patients with SLE are discussed in relation to autoimmune disease of the inner ear. Author.

Anatomic study for posterior medialization thyroplasty. Kojima, H., Hirano, S., Shoji, K., Isshiki, N. Department of Hearing and Speech Science (Otolaryngology), Kyoto University, Japan. *Annals of Otology, Rhinology and Laryngology* (1999) April, Vol. 108 (4), pp. 373–7.
To attain posterior medialization by thyroplasty type I, we simulated the surgery using three cadaveric larynges. Two approaches were applied to adduct the arytenoid cartilage: one involved compression of the vocal process, and the other, compression of the muscular process inward. The inner perichondrium was incised to reach the arytenoid cartilage from the framework. To compress the vocal process, a large silicone plug was required. In this method, there was some difficulty in compressing the vocal process precisely, and there was the risk of postoperative extrusion of the large plug. In contrast, the muscular process was more superficial relative to the framework, and it could be precisely compressed, resulting in sufficient posterior glottal closure. The silicone plug required for this procedure has a shallow depth that may provide the advantage of preventing postoperative extrusion. In conclusion, the compression of the muscular process is preferable for safely achieving posterior glottal closure. Author.

Anterior cervical-transsternal approach for resection of benign tumours at the thoracic inlet. Ladas, G., Rhys-Evans, P. H., Goldstraw, P. Department of Thoracic Surgery, Royal Brompton Hospital, London, England. *Annals of Thoracic Surgery* (1999) March, Vol. 67 (3), pp. 785–9.
BACKGROUND: Neural tumours at the thoracic apex, even when benign, present technical problems for the surgeon because of their inaccessibility. The standard approach from below, using a posterolateral thoracotomy, offers suboptimal access to the

vascular and neural structures of the thoracic inlet. METHODS: We present a new technique for the resection of benign tumours of the thoracic inlet, combining an anterior cervical approach with a limited median sternotomy. We do not find it necessary to resect any part of the clavicle or to add a thoracotomy. We used this technique in four patients with apical tumours. In three patients the tumour arose from the sympathetic chain and in one patient from the T1 component of the brachial plexis. RESULTS: The tumours ranged from 30 to 70 mm in diameter, and histological findings were neurilemoma in three cases and ganglioneuroma in one. There were no complications or deaths. All four patients were discharged three to six days postoperatively. CONCLUSIONS: In our experience this new technique provides improved exposure, good control of the neurovascular bundle, and less morbidity than that associated with thoracotomy. For malignant Pancoast's tumours we would still advocate the approach of Dartevelle or Grunenwald, supplemented by lateral thoracotomy to facilitate systematic intrathoracic evaluation. Author.

Behaviour and cognitive outcomes from middle ear disease. Bennett, K. E., Haggard, M. P. MRC Institute of Hearing Research, University Park, Nottingham, UK. *Archives of Diseases in Childhood* (1999) January, Vol. 80 (1), pp. 28–35.
OBJECTIVES: To resolve controversies over associations between a history of middle ear disease and psychosocial or cognitive/educational outcomes. DESIGN: Multipurpose longitudinal birth cohort study. Original cohort comprised all UK births between 5 and 11 April 1970; data were available for approximately 12,000 children at five-years-old and 9000 children at 10 years old. METHODS: For five-year-old children, parent reported data were available on health, social, and behavioural factors, including data on two validated markers of middle-ear disease. Cognitive tests were administered at five and 10 years of age, and behavioural problems rated at 10 years by the child's teacher. RESULTS: After adjustment for social background and maternal malaise, the developmental sequelae of middle-ear disease remained significant even at 10 years. The largest effects were observed in behaviour problems and language test data at age five, but effect sizes were modest overall. IMPLICATIONS: These results provide an epidemiological basis for policies that aim to minimize the sequenlae of middle-ear disease by awareness in parents and preschool teachers, early referral, and intervention for more serious or persistent cases. Author.

Two-port endoscopy of the middle ear: endoscopic anatomy. Tschabitscher, M., Klug, C. Department of Anatomy I, University of Vienna, Austria. *Archives of Otolaryngology – Head and Neck Surgery* (1999) April, Vol. 125 (4), pp. 433–7.
OBJECTIVES: To shed light on the endoscopic anatomy of the middle ear seen on two-port endoscopy and to describe potential clinical applications. DESIGN: Anatomical structures were visualized by transmeatal or transtympanic rigid scopes of different angles and by a flexible scope in the eustachian tube. This arrangement ensured reciprocal guidance of the scopes and provided access to regions not seen otherwise. SETTING: The Department of Anatomy I, University of Vienna, Vienna, Austria. MATERIALS: Forty tympanic cavities obtained from cadaver skulls without prior fixation were examined. Specimens did not show any abnormalities and were chosen without regard to age or sex. RESULTS: Depending on the angle of view, rigid transmeatal or transtympanic endoscopes provided a full view of the entire tympanic cavity except for the epitympanum, access to which was barred by the incudomallear joint, the mallear folds, and the tympanic chord, but the epitympanum was well visualized through the flexible, steerable, transtubal scope. CONCLUSIONS: Two-port endoscopy of the middle ear offers a full view of all structures in the tympanic cavity. The atraumatic transtubal approach to the tympanic cavity enhances the safety of transmeatal interventions and facilitates postoperative follow-up. Author.

Risk factors for hearing loss from meningitis in children: the Children's Hospital experience. Woolley, A. L., Kirk, K. A., Neumann, A. M. Jr., McWilliams, S. M., Murray, J., Freind, D., Wiatrak, B. J. Department of Surgery, Children's Hospital, The University of Alabama at Birmingham, 35233, USA. *Archives of Otolaryngology – Head and Neck Surgery* (1999) May, Vol. 125 (5), pp. 509–14.
OBJECTIVES: To identify statistically significant risk factors for hearing loss in children with meningitis, determine the overall incidence of hearing loss in a large group of children with confirmed meningitis, and quantify the percentage of children with progressive or fluctuating hearing loss after meningitis. DESIGN: Retrospective analysis. PATIENTS AND OTHER PARTICIPANTS: Four hundred thirty-two children admitted to the Children's Hospital, Birmingham, Ala, from January 1, 1985 to December 31, 1995, with the diagnosis of meningitis. RESULTS: Of 432 children with meningitis, 59 (13.7 per cent) had the development of hearing loss. Of these 59 children, 46 (78 per cent) had stable sensorineural hearing loss and 13 (22 per cent) had either progressive or fluctuating hearing loss. Of the variables examined using multiple logistic regression backward-elimination modelling, only five appeared to be significantly associated with the development of hearing loss: computed tomographic scan evidence of increased intracranial pressure (estimated odds ratio (OR) = 2.3), male sex (OR = 1.9), the common logarithm of glucose levels in the cerebrospinal fluid (OR = 0.58), *Streptococcus pneumoniae* as the causative organism (OR = 2.1), and the presence of nuchal rigidity (OR = 1.9). In the children with progressive hearing loss, the time for progression varied from three months to four years before hearing stabilized. CONCLUSIONS: In this study of children diagnosed as having meningitis, hearing loss developed in 59 (13.7 per cent). Forty-six (78 per cent) of these children with hearing loss had stable auditory thresholds over time, and 13 (22 per cent) exhibited deterioration or fluctuation of acuity over time. Evidence of increased intracranial pressure by computed tomographic scan, male sex, low glucose levels in the patients' cerebrospinal fluid, *S pneumoniae* as the causative organism, and the presence of nuchal rigidity appear to be significant predictors for future hearing loss. Author.

Adenotonsillectomy in children with von Willebrand disease. Allen, G. C., Armfield, D. R., Bontempo, F. A., Kingsley, L. A., Goldstein, N. A., Post, J. C. Department of Pediatric Otolaryngology, Children's Hospital of Pittsburgh, PA, USA. allen.gregory@tchden.org. *Archives of Otolaryngology – Head and Neck Surgery* (1999) May, Vol. 125 (5), pp. 547–51.
OBJECTIVE: To review the effectiveness of a perioperative management protocol and our experience with a large population of patients with von Willebrand disease (vWD) who require adenotonsillar sugery (T&A). DESIGN: A retrospective review of the medical records of all patients having the diagnosis of vWD who underwent T&A between January 1, 1992, and July 31, 1996. SETTING: A tertiary care, university-based children's hospital. INTERVENTIONS: Patients having a preoperative diagnosis of vWD received a single intravenous dose of desmopressin acetate, 0.3 pg/kg, approximately 20 minutes before the induction of anaesthesia. Beginning January 15, 1994, a standard management protocol involving the postoperative administration of fluids and electrolytes was followed. MAIN OUTCOME MEASURES: Operative blood loss and the incidence of postoperative bleeding and of hyponatremia. RESULTS: Of approximately 4800 patients who underwent T&A during the study period, 69 patients had a diagnosis of vWD. All 67 patients identified preoperatively received desmopressin; two were identified by postoperative workup as a result of excessive surgical bleeding. Minimal immediate postoperative bleeding was noted in seven patients (10 per cent), but none required intervention. Delayed bleeding occurred in nine patients (13 per cent); all were readmitted to the hospital for observation, four (six per cent) requiring operative cauterization. Substantial postoperative hyponatremia occurred in three patients, and one patient had seizure activity. Symptomatic hyponatremia has been avoided since a protocol of fluid and electrolyte administration was instituted. CONCLUSIONS: Although T&A can be performed safely in patients with vWD, it is not without an increased risk of postoperative hemorrhage. The administration of desmopressin has been reported to reduce the risk of bleeding, but it is not without risk. A protocol for fluid and electrolyte management is recommended. Author.

Use of alternative medicine among patients with head and neck cancer. Warrick, P. D., Irish, J. C., Morningstar, M., Gilbert, R., Brown, D., Gullane, P. Wharton Head and Neck Centre, The Toronto Hospital/Princess Margaret Hospital, Ontario, Canada.*Archives of Otolaryngology – Head and Neck Surgery* (1999) May, Vol. 125 (5), pp. 573–9.

OBJECTIVES: To determine the prevalence of alternative medicine use in the population with head and neck cancer and correlate with demographics and tumour characteristics. DESIGN: Cross-sectional surgery study. SETTING: Two tertiary cancer centres. PATIENTS: Two hundred consecutive outpatients with consecutive head and neck cancer. INTERVENTIONS: A 10- to 25-minute patient interview administered by primary investigator. MAIN OUTCOME MEASURES: Demographic markers (sex, age, education, household income, marital status, ethnic background, and geographic location); tumour characteristics (tumour site, pathology, staging, time since diagnosis, and incidence of recurrence); conventional mode of treatment; attitudes regarding alternative medicine, source of exposure of alternative medicine, therapeutic rationale, treatment efficacy, sources of information, and discussions with physicians about alternative medicine. RESULTS: Seventy-seven (38.5 per cent) of 200 patients had used alternative medicine for some purpose, and 45 (22.5 per cent) of 200 did so for head and neck cancer. Increased use of alternative medicine occurred among patients of younger age, having a postsecondary education, higher personal income, and Indo-Asian extraction. Of those patients using alternative anticancer therapy, increased use was noted among patients with tumours of the nasopharynx, nonsquamous cell carcinoma pathology, and recurrent disease. Conventional mode of treatment had no association with alternative medicine use. Physicians were believed to be the most knowledgeable about alternative medicine, while the usual proponents of alternative medicine were identified least frequently. CONCLUSIONS: Alternative cancer therapy use among patients with head and neck cancer was 22.5 per cent, with increased use in younger, affluent, better educated patients, and those of Indo-Asian extraction. Patients view physicians as being knowledgeable about alternative medicine. Otolaryngologists should inform themselves about alternative medicine to counsel patients more effectively. Author.

Pseudoephedrine and air travel-associated ear pain in children. Buchanan, B. J., Hoagland, J., Fischer, P. R. Department of Pediatrics, University of California, Davis, USA. *Archives of Pediatrics and Adolescent Medicine* (1999) May, Vol. 153 (5), pp. 466–8.

BACKGROUND: Young children often appear bothered by ear pain during ascent and descent while travelling on commercial airplanes. While pseudoephedrine hyrochloride is effective in decreasing the risk for earache in adults with recurrent air travel-associated ear pain, such use in children has not been studied. OBJECTIVE: To assess the efficacy and side effects of prophylactic pseudoephedrine in children travelling by air. DESIGN: A placebo-controlled, double-blind clinical trial. SUBJECTS AND METHODS: Children aged six months to six years were included in this study. Pseudoephedrine hydrochloride (1 mg/kg body weight) or placebo was administered 30 to 60 minutes prior to departure on commercial air flights. Caregivers noted historical details and the degree of apparent ear pain, drowsiness, and excitability with ascent and descent. RESULTS: Ninety-one flights involving 50 children were studied, with ear pain being reported in 13 (14 per cent) of flights. Ear pain was not associated with a history of air travel-associated ear pain, recent ear infection, or recent upper airway symptoms. Pseudoephedrine use was not associated with a decrease in ear pain during either ascent (four per cent with pseudoephedrine vs five per cent with placebo; p approximately 1.00) or descent (12 per cent with pseudoephedrine vs. 13 per cent with placebo; p approximately 1.00). Pseudoephedrine use was, however, linked to drowsiness at take off (60 per cent with pseudoephedrine vs. 27 per cent with placebo; $p = 0.003$) but not at landing ($p = 0.39$). Treatment was not associated with excitability at takeoff ($p = 0.09$) or landing (p approximately 1.00). CONCLUSIONS: Ear pain is not uncommon in children travelling by commercial aircraft. The predeparture use of pseudoephedrine does not decrease the risk for in-flight ear pain in children but is associated with drowsiness. Author.

Erratum

The paper published in the June issue of the Journal, "Rapidly invading sebaceous carcinoma of the external auditory canal" by Ray *et al.*, Vol. 113: 578–580 has in error had one of the authors' names omitted. The authors for this paper are: J. Ray, G. A. Worley, J. B. Schofield, J. C. Shotton, A. Al-Ayoubi, as it appears on the contents page. We apologise for any inconvenience this may have caused.