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Abstract Selection

A double-blind cross-over study of a non-linear hearing aid. Nilsson, P., Vesterager, V., Sibelle, P., Sieck, L., Christensen, B. Department of Audiology, Bispebjerg Hospital, Copenhagen, Denmark. *Audiology* (1997) November-December, Vol. 36 (6), pp. 325–38.
New hearing aids are usually introduced after clinical trials. These are mostly based on subjects reports, in which it is possible that the subject's judgment of the acoustic performance might be influenced by the awareness that it is a new hearing aid which is being investigated. To examine the benefit of a new non-linear amplification circuit, a double-blind cross-over study was conducted. Two 'new' hearing aids were developed; they were identical in external appearance and differed only in that one involved ordinary linear amplification while the other employed compressive amplification (the K-amp circuit). Forty-five experienced users with sensorineural hearing loss, aged 60–80 years, used each of the aids for ten weeks, in balanced order. The subjects' need for hearing aid ranged from listening to radio and television to extensive use in all kinds of demanding listening situations. The results, using a structured questionnaire concerning real-life settings, speech reception tests and subject preferences for a particular hearing aid, showed little difference between the two hearing aids. Twenty-three subjects selected the non-linear amplification circuit, 20 subjects preferred the linear hearing aid and two chose to return to their previous aid. No consistent differences between those preferring the linear circuit and those preferring compression were found. It can be concluded that this compression amplification circuit is not significantly preferred to the traditional linear hearing aid. Author.

Medical treatment of recurrent temporomandibular joint dislocation using botulinum toxin A. Moore, A. P., Wood, G. D. Walton Centre for Neurology and Neurosurgery NHS Trust, Liverpool. *British Dentistry Journal* (1997) December 13–27, Vol. 183 (11–12), pp. 415–7.
This paper describes a new technique for prophylactic treatment of recurrent mandibular dislocation using injection of botulinum toxin A (BtA) into the lateral pterygoid muscles. BtA temporarily weakens muscles by blocking acetylcholine release, and thus operates through a principle different from established treatments, such as joint sclerosant therapy, eminectomy or Dautry's procedure. The patient suffered recurrent mandibular dislocations caused by tardive dystonia. We injected 75 mu BtA percutaneously into each lateral pterygoid muscle under electromyographic guidance. No further dislocations occurred over the subsequent 10 months, and follow-up continues. There were no immediate or delayed side effects. More experience is required before this becomes an established treatment. BtA is usually given in outpatients, and is less invasive or destructive than previous options. It may not be suitable if dislocation is due to lax ligaments or weak muscles. Operators must be aware that other BtA preparations require a different dose. Author.

A compact disc containing simulations of hearing impairment. Moore, B. C. Department of Experimental Psychology, University of Cambridge, UK. *British Journal of Audiology* (1997) October, Vol. 31 (5), pp. 353–7.
The author has produced a compact disc (CD) which contains a series of simulations of the effects of cochlear hearing loss. The following aspects are simulated: threshold elevation combined with loudness recruitment; reduced frequency selectivity; and threshold elevation, loudness recruitment and reduced frequency selectivity all together. The effects are demonstrated using speech in quiet and in a background of noise, and using a piece of music with a wide dynamic range. The CD also includes simulations of the effect of having a conventional 'linear' hearing aid, and of having aid incorporating dual-channel fast acting compression. Finally, the CD contains demonstrations of the 'occlusion effect' and the benefits of having a deeply fitting earmould or hearing aid. The purpose of this note is to describe some of the uses of the CD for teaching and educational purposes and to indicate which tracks will be most effective for specific purposes. Author.

The end of antibiotic treatment in adults with acute sinusitis-like complaints in general practice? A placebo-controlled double-blind randomized doxycycline trial. Stalman, W., van Essen, G. A., van der Graaf, Y., de Melker, R. A. Department of General Practice, University of Utrecht, The Netherlands. *British Journal of General Practice* (1997) December, Vol. 47 (425), pp. 794–9.
BACKGROUND: Acute sinusitis-like complaints are very common and are usually treated with antibiotics in spite of the lack of evidence for the effectiveness of antibiotic therapy and the increasing number of resistant strains. AIM: To assess the effectiveness of doxycycline in adults with acute sinusitis-like complaints in general practice. METHOD: The effects of doxycycline in a placebo-controlled, double-blind, randomized trial were assessed in adults consulting their general practitioner (GP) with complaints after a common cold or influenza, pain in the head when bending forward, purulent nasal discharge, predominantly unilateral maxillary pain, toothache, or pain when chewing. Primary outcome events were the resolution of facial pain and the resumption of daily activities. Treatment differences were assessed by means of Kaplan-Meier curves and hazard ratios. The follow-up period was 42 days. RESULTS: No significant difference was found in time to recover between the doxycycline-treated group and the placebo-treated group. However, the adjusted hazard ratio for the group receiving doxycycline was 1.17 (95 per cent CI = 0.87–1.57) for the resolution of pain and 1.31 (95 per cent CI = 0.96–1.78) for the resumption of daily activities. After 10 days, 85 per cent of all patients reported improvement and 60 per cent were completely cured. Side effects were reported by 17 per cent of the doxycycline-treated group, with two patients withdrawing because of side effects. CONCLUSIONS: Data from this study indicate that doxycycline does not add to the effectiveness of decongestive nose drops and steam inhalation in treating acute sinusitis-like complaints in general practice adults. Author.

A technique to reduce CSF leakage after acoustic neuroma surgery. Dorward, N. L., Palazzo, F. F., Illingworth, R. D., Cheeseman, A. D. Regional Neurosciences Centre, Charing Cross Hospital, London, UK. *British Journal of Neurosurgery* (1997) October, Vol. 11 (5), pp. 418–20.
Leakage of CSF remains a frequent complication of acoustic neuroma surgery in contrast with the significant reductions achieved in mortality and morbidity. The rate of CSF leakage following acoustic neuroma excision is presented for 49 consecutive patients. The first 23 operations were performed before the introduction of a new technique for sealing off air cells in the internal auditory meatus and the following 26 with this new method. CSF leakage occurred in nine of the first 23 patients compared with one of 26 patients using this method ($p<0.01$). The two groups were similar for tumour size and facial nerve preservation rate. The technique, which avoids the need for a second donor site wound or continuous lumbar drainage, is described and factors leading to CSF leakage are discussed. Author.

Familial progressive sensorineural deafness is mainly due to the mt DNA A1555G mutation and is enhanced by treatment of aminoglycosides (see comments). Estivill, X., Govea, N., Barcelo, E., Badenas, C., Romero, E., Moral, L., Scozzri, R., D'Urbano, L., Zeviani, M., Torroni, A. Medical and Molecular Genetics Center IRO, Hospital Duran i Reynals, Barcelona, Spain. estivill@iro.es. *American Journal of Human Genetics* (1998) January, Vol. 62 (1), pp. 27–35. Comment in: *American Journal of Human Genetics* (1998) January, **62 (1)**: 15–9.
Hearing loss involves both genetic and environmental factors. A mutation (A1555G) in the mtDNA has been associated with aminoglycoside-induced and nonsyndromic sensorineural deafness. The pathological significance of this mutation in Caucasoid families has not been established, and its relationship with antibiotic treatment is not well understood. We studied 70 Spanish families with sensorineural deafness (36 congenital and 34 late onset) for the mtDNA A1555G mutation. The A1555G mutation was found in 19 families with maternally transmitted deafness but not in the other 51 families or in 200 control subjects. In 12 families all the patients with the A1555G mutation who received aminoglycosides became deaf, representing 30.3 per cent of the deaf patients in these families. None of the deaf patients from seven other families received aminoglycosides. Overall, only 17.7 per cent of the patients with deafness and the A1555G mutation had been treated with aminoglycosides. The age at onset of deafness was lower (median age five years, range 1–52 years) in those treated with aminoglycosides than in those who did not receive antibiotics (median age 20 years, range 1-65 years) ($p<0.001$). The mtDNA of these families belongs to haplotypes common in Europeans. These data indicate that the A1555G mutation accounts for a large proportion of the Spanish families with late-onset sensorineural deafness, that the A1555G mutation has an age-dependent penetrance for deafness (enhanced by treatment with aminoglycosides), and that mtDNA backgrounds probably do not play a major role in disease expression. Author.

Is it necessary to suture the platysma muscles on the midline to improve the cervical profile? An anatomic study using 20 cadavers. Knipper, P., Mitz, V., Maladry, D., Saad, G. Department of Orthopedic and Reconstructive Surgery of Pr. J. P. Lemerle, Hopital Boucicaut, Paris, France. *Annals of Plastic Surgery* (1997) December, Vol. 39 (6), pp. 566–72.
To ameliorate the cervicomental angle, most surgeons suggest different techniques of platysmaplasty. The aim of this anatomic study is to find a simple answer to the following question: Is suturing of the anterior edges of the platysma muscles during platysmaplasty the best procedure to use to obtain the best concave anterior neck angle? Three different surgical techniques using platysma muscle flaps were used on 20 cadavers prepared for anatomic dissection. Each piece of dissection was controlled by a radiograph of the profile of the cervical region before and after the application of these different techniques. Cephalometric measures were made and statistically analyzed. The analysis of the results demonstrates that the best concave anterior neck angle to perform platysmaplasty is one in which the platysma muscle flap is shifted posterosuperiorly but without suturing the medial borders of the platysma muscles. Suturing the midline does not deepen the concavity in the front of the neck. Author.

Lupus vulgaris of the earlobe. Okazaki, M., Sakurai, A. Department of Surgery, Jichi Medical School, Tochigi, Japan. *Annals of Plastic Surgery* (1997) December, Vol. 39 (6), pp. 643–6.
Cutaneous tuberculosis is rare today and is often confused with other granulomatous lesions. Its diagnosis remains bothersome, because detecting mycobacteria in skin lesions using a conventional laboratory examination remains difficult. A 59-year-old woman presented with lupus vulgaris of the earlobe. Surgical treatment was employed, with an initial diagnosis of hemangioma. After the operation the condition was diagnosed correctly and preventive antituberculous drugs were prescribed. The incidence of tuberculosis has increased since the mid-1980s chiefly due to the expansion of the HIV-infected, immunocompromised population. Thus the diagnosis and treatment of cutaneous tuberculosis has become once again important. Author.

Prospects for future studies in head and neck cancer. van Dongen, G. A., Snow, G. B. Department of Otolaryngology/Head and Neck Surgery, Free University Hospital, Amsterdam, The Netherlands. gams.van_dongen@azvu.nl. *European Journal of Surgical Oncology* (1997) December, Vol. 23 (6), pp. 486–91.
Present therapy of head and neck cancer patients includes surgical procedures, radiotherapy and sometimes chemotherapy. Over recent decades no dramatic improvements have been obtained with these treatment modalities with respect to efficacy and associated morbidity. Of patients with early stage disease (stage I and II), about 25 per cent cannot be cured, while for patients with advanced disease (stage III and IV) this percentage may be as high as 70 per cent. However, owing to advances in our knowledge of molecular biology, immunology, (bio)chemistry and biology of head and neck squamous cell carcinoma (HNSCC), new perspectives on therapy are arising. After several years of optimization several new therapeutic approaches are leaving their infancy and are being evaluated in clinical trials with HNSCC patients. Among other approaches, photodynamic therapy, gene therapy and antibody-based therapy are attracting most attention. The basic concepts and the potential applications of these treatment modalities in the management of head and neck cancer are discussed in this paper. Author.

Head and neck cancer in the South West of England: influence of socio-economic status on incidence and second primary tumours. Thorne, P., Etherington, D., Birchall, M. A. University of Bristol Cancer Epidemiology Unit, UK. *European Journal of Surgical Oncology* (1997) December, Vol. 23 (6), pp. 503–8.
This study examined possible links between the incidence of head and neck squamous cell carcinoma (HNSCC) and social deprivation. Data on all HNSCC registered between 1985 and 1991 in the South West of England were collected. Excluding tumours of the lip and skin there were 1,570 cases, 72 per cent in males. Of these, 1,467 were identified as first primary tumours. Corrected chi-squared tests, accepting significance at the five per cent level, were used to examine the association of socio-economic status (Carstairs index) with incidence at different sites. Overall, the incidence of HNSCC was higher in the socially deprived group. In males, the most deprived group had a significantly higher incidence of oral carcinoma than all other groups ($p<0.05$), whereas the incidence of laryngeal carcinoma showed a gradual rise with increasing deprivation. In females, where numbers were relatively low, the trend remained, but was less clear. In total, 72 (4.9 per cent) cases went on to develop a second primary, of which 35 per cent were in the lung and 13 per cent in the bladder. Socio-economic status did not affect the development of a second primary tumour. The association of HNSCC with carcinoma of the bladder is a new finding. Author.

Histological and physiological effects of the central auditory prosthesis: surface versus penetrating electrodes. Liu, X., McPhee, G., Seldon, H. L., Clark, G. M. Department of Otolaryngology, The University of Melbourne, Australian Bionic Ear and Hearing Research Institute, Vic. liux@mail.medoto.unimelb.edu.au. *Hearing Research* (1997) December, Vol. 114 (1–2), pp. 264–74.
To rehabilitate profoundly deaf patients who are not suitable for cochlear implants, central auditory prostheses have been implanted. To compare two possible electrode configurations-penetrating and surface ones-electrical stimulation of the cochlear nucleus with both types of arrays was tested on guinea pigs and cats. Electrophysiological, autoradiographic and histological measures were used to study effects of the central auditory prostheses on the auditory pathway. The results showed that a successful electrically evoked auditory brainstem response could be recorded with both surface and penetrating electrodes in cats and guinea pigs. In guinea pigs the penetrating electrodes had advantages over surface arrays in the sense of lower thresholds and wider dynamic ranges. In cats penetrating electrodes showed lower thresholds than surface ones. In cats and guinea pigs stimulated with either surface or penetrating electrodes, evoked 2-deoxyglucose (2-DG) label was found in the auditory pathway from the cochlear nucleus to the inferior colliculus. No non-auditory tissues were found with evoked 2-DG label. Histological results showed that in subdivisions of the guinea pig cochlear nucleus stimulated with penetrating electrodes the neurone density was decreased,

and the mean soma area was increased compared with the control side. In the cat, penetrating electrodes were associated only with increased mean soma area in parts of the stimulated cochlear nucleus. These results suggest that the physiological advantages of penetrating electrodes over surface ones were achieved with some trade-off in safety, especially in the guinea pig. Author.

A major gene affecting age-related hearing loss in c57BL/6J mice. Johnson, K. R., Erway, L. C., Cook, S. A., Willott, J. F., Zheng, Q. Y. The Jackson Laboratory, Bar Harbor, ME 04609-1500, USA. krj@jax.org. *Hearing Research* (1997) December, Vol. 114 (1–2), pp. 83–92.
A major gene responsible for age-related hearing loss (AHL) in C57BL/6J mice was mapped by analyses of a (C57BL/6J x CAST/Ei) x C57BL/6J backcross. AHL, as measured by elevated auditory-evoked brainstem response (ABR) thresholds, segregated among backcross mice as expected for a recessive, primarily single-gene trait. Both qualitative and quantitative linkage analyses gave the same genetic map position for the AHL gene (Ahl on chromosome 10, near D10Mit5. Marker assisted selection was then used to produce congenic lines of C57BL/6J that contain different CAST-derived segments of chromosome 10. ABR test results and cochlear histopathology of aged progenitors of these congenic lines are presented. Ahl is the first gene causing late-onset, non-syndromic hearing loss that has been reported in the mouse. Author.

Correction of the protruding ear with a modified anterior scoring technique. Lazaridis, N., Tilaveridis, I., Dimitrakopoulos, I., Karakasis, D. Department of Oral and Maxillofacial Surgery, University Clinic, G. Papanikolaou General Hospital, Thessaloniki, Greece. *Journal of Oral Maxillofacial Surgery* (1998) March, Vol. 56 (3), pp. 307–13.
PURPOSE: This article describes a modified anterior scoring technique to provide natural-looking results after correction of the protruding ear. The modified technique is described, and its advantages are compared with the conventional anterior scoring technique and with the other two basic techniques (Converse and Mustarde). PATIENTS AND METHODS: The modified technique was used to treat eight patients. In these cases, the use of transfixion mattress sutures placed through the perichondrium was very helpful in achieving a smooth curvature. RESULTS: Results up to one year showed no alteration in form when compared with the short-time results. CONCLUSION: The conventional anterior scoring technique for otoplasty is one of the most useful and reliable techniques, applicable in all cases of prominent ears. However, in some cases, it is difficult to control the cartilage bending completely. By using three adjusting mattress sutures (4-0 vicryl) through the perichondrium on the posterior side, combined with shallower scoring incisions, it is possible to create symmetry with the opposite ear and prevent 'telephone ear' complication. Author.

Stress and symptoms of Meniere's disease: a time-series analysis. Andersson, G., Hagnebo, C., Yardley, L. Department of Psychology, University College, London, UK. gerhard.andersson@itp.uu.se. *Journal of Psychosome Research* (1997) December, Vol. 43 (6), pp. 595–603.
Meniere's disease is an inner ear disease in which the symptom cluster of hearing loss, tinnitus, and dizziness is found along with attacks of vertigo and nausea. In this study, 20 subjects diagnosed with Meniere's disease completed daily measures of stress and symptoms during periods ranging between 45 and 351 days (M = 193.5). Data were analyzed by means of time-series analysis (ARIMA), and the temporal associations were investigated by lagged correlations. The results showed concurrent (same day) associations between stress and symptoms, but individual differences were found regarding which symptoms were associated with stress. Although stress is linked with symptom perception, this study does not support the role of stress as a precursor of symptoms in Meniere's disease. Author.

Association between tinnitus and somatoform disorders. Hiller, W., Janca, A., Burke, K. C. Clinic Roseneck, Centre for Behavioural Medicine, Prien, Germany. *Journal of Psychosome Research* (1997) December, Vol. 43 (6), pp. 613–24.
Pathophysiological mechanisms are often unknown in patients suffering from 'idiopathic' tinnitus, and the presence of other unexplained physical symptoms such as those seen in somatoform disorders can be assumed. This study investigates how often tinnitus exists in general medical outpatients with and without somatoform disorders. In an international study initiated by the World Health Organization (WHO), 1,275 patients from 12 participating centers located in 11 different countries were examined by means of the WHO Somatoform Disorders Schedule. The overall prevalence of unexplained tinnitus was 11 per cent; however, tinnitus was clearly more frequent among patients with somatization disorder (42 per cent) or hypochondriacal disorder (27 per cent). It was also more frequent than a great number of other symptoms considered to be typical of somatoform disorders. Tinnitus was also related to depression, anxiety, and to symptoms indicating autonomic arousal. Three possible conclusions are discussed: (i) tinnitus may be a somatoform symptom; (ii) the findings may indicate a substantial comorbidity of two different conditions; (iii) tinnitus and somatization may be linked through common mechanisms of arousal and somatic anxiety. Author.