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general practitioners did not reach a diagnosis and most children (60%) were referred to an otolaryngologist. Eighty per cent of the children who visited an otolaryngologist were diagnosed with otitis media with effusion. Fifty-three per cent of these children were treated with ventilation tubes.

Our results have shown that most children picked up by the screening had a conductive hearing loss (80%). In spite of doubt that has been cast on the appropriateness of surgical treatment of children with OME, 53% of the children were treated with ventilation tubes.

An important rationale for treatment is probably that children at this age are particularly at risk of impaired speech and language development resulting from hearing loss.

### Early onset inherited hearing loss and late onset neurological complaints with maternal inheritance

R.J.H. ENSINK, H.A.M. MARRES, P.L.M. HUYGEN, K. VERHOEVEN, G.W. PADBERG, G. VAN CAMP & C.W.R.J. CREMERS (Nijmegen, Antwerpen)

A family with 69 maternally-related individuals was investigated for the maternal inheritance of hearing impairment. In some family members from the age of 40 years additional neurological complaints consisting of dysarthria, an ataxic gait and reduced strain tolerance had developed. Three family members suffered from an acute aminoglycoside induced deafness during their first week of treatment for TB. One family member died of an unclassified progressive neurological disease. A muscle biopsy revealed characteristically altered mitochondria. In the majority of all family members high frequency hearing impairment was the initial and sole manifestation of the disease.

Regression analysis of audiological data suggests a congenital component of high frequency (4–8 kHz) impairment. Low frequency impairment (0.25–2 kHz) has started from the age of 10 years onward. Vestibular hyperreactivity occurred in most family members.

The hearing impairment and additional neurological complaints were caused by a mutation at position 7472 of the mitochondrial genome. The mitochondrial genome is small (16 659 basepairs) and exclusive maternally transmitted. Counselling and follow up in this rare pattern of inheritance is now only confined to all children of a hearing impaired mother.

### Reference

TIRANTI V, CHARIOT P, CARELLA F. *et al* (1995) Maternally inherited hearing loss, ataxia and myoclonus associated with a novel point mutation in the mitochondrial t-RNA<sup>Ser</sup>(UCN) gene. *Hum. Molecular Genetics* 4, 1421–1427

### Computerized hearing aid revalidation in ENT practice: a helpful tool?

N. HOLSBOER, B.E. GLAZENBURG, K. WIGGERS & H.A.A. SPOELSTRA (Den Haag)

A group of 181 hearing impaired patients was divided into three subgroups.

In group 1 the hearing aid selection was carried out by the ENT specialist according to his best knowledge and at the same time a computer-assisted selection was offered to the patient. The patient was allowed to give his preference after trying both hearing aids. The result in this group was that 30% of the patients preferred a hearing aid selected by the ENT specialist, that 34% preferred a hearing aid selected by computer and 36% were satisfied with the choice of the hearing aid dispenser.

In group 2 the selection was made by computer and an alternative solution was left to the hearing aid dispenser. The result in this group was that 74% preferred the computer selection and 26% preferred the selection of the hearing aid dispenser.

In group 3 the selection was purely made by the ENT-specialist and an alternative choice was left to the hearing aid dispenser. The result in this group was that 42% of the patients preferred the ENT-specialist's choice and 58% preferred the choice of the hearing aid dispenser.

Not only the subjective patients choice was evaluated, but also the 50% level of speech discrimination scores were analysed in the three groups. There were no significant differences between the three groups.

The general conclusion was that a prescription by the computer is better than a prescription by the ENT-specialist.

### Galvanic stimulation of the vestibular system

J.J. VAN TWISK & H. KINGMA (Maastricht)

By means of retro auricular (active) and neck (reference) electrodes the left and right peripheral vestibular system can be galvanically (electrically) stimulated. Both mono aural (AD or AS relative to the reference) or binaural (AD relative to AS) are possible. It is still unclear as to where and how electrostimulation affects this sensory system. According to the literature responses are nystagmus and increased body sway. The possibility of developing this method for clinical use is being investigated at Maastricht University. In a pilot study (in cooperation with M. Magnusson, Lund, Sweden) using the Maastricht video eyetracker no nystagmus was detected at stimuli between 0 to 3 mA and 0 to 10 Hz. Only contractions of the facial musculature around the eye and forehead were observed. Therefore the subsequent research focuses upon postural sway. Postural sway was quantified using a force platform (Toennies Tpost), before, during and after electrostimulation (1 Hz, 1 mA). Comparison was made between