Tidsskriftet Tidsskrift for Den norske legeforening

More prompt diagnosis and treatment for sudden hearing loss

FROM THE SPECIALTIES

BERND MÜLLER

bernd.mueller@helse-bergen.no
Bernd Müller, PhD, senior consultant at the Hyperbaric Medicine Unit, Department of Occupational Medicine, Haukeland University Hospital, Bergen, and head of the SuDHO clinical trial.
The author has completed the ICMJE form and declares no conflicts of interest.

FREDERIK KRAGERUD GOPLEN

Frederik Kragerud Goplen, PhD, senior consultant at the Department of Otorhinolaryngology and Head and Neck Surgery, Haukeland University Hospital Bergen, and a member of the otoneurosurgery committee.
The author has completed the ICMJE form and declares no conflicts of interest.

JEANETTE HESS-ERGA

Jeanette Hess-Erga, senior consultant at the Department of Otorhinolaryngology and Head and Neck Surgery, Haukeland University Hospital, Bergen, and a member of the audiology committee.
The author has completed the ICMJE form and declares no conflicts of interest.

JAN ERIK BERGE

Jan Erik Berge, PhD, senior consultant at the Department of Otorhinolaryngology and Head and Neck Surgery, Haukeland University Hospital, Bergen.
The author has completed the ICMJE form and declares no conflicts of interest.

LEIF RUNAR OPHEIM

Leif Runar Opheim, senior consultant, head of the Section for Otoneurosurgery, Department of Otorhinolaryngology and Head and Neck Surgery, Oslo University Hospital, Rikshospitalet, and a member of the otoneurosurgery committee.
The author has completed the ICMJE form and declares no conflicts of interest.

HAAKON ARNESEN

Haakon Arnesen, senior consultant at the Department of Otorhinolaryngology and Head and Neck Surgery, St Olav's Hospital, Trondheim University Hospital.
The author has completed the ICMJE form and declares no conflicts of interest.

JUHA TAPIO SILVOLA

Juha Tapio Silvola, senior consultant at the Section for Otology, Department of Otorhinolaryngology and Head and Neck Surgery, head of the research unit in the surgical division at Akershus University Hospital, professor at the University of Oslo and a member of the audiology committee.
The author has completed the ICMJE form and declares no conflicts of interest.

HANS KRISTIAN RØKENES

Hans Kristian Røkenes, senior consultant at the Department of Otorhinolaryngology, Vestre Viken, Drammen Hospital Trust, and head of the Norwegian Society of Otorhinolaryngology, Head and Neck Surgery.
The author has completed the ICMJE form and declares no conflicts of interest.

A new clinical trial is providing valuable insight into the importance of acting quickly in cases of sudden hearing loss.

Sudden hearing loss can be caused by conditions ranging in severity from earwax to stroke. Cases where the ear canal is blocked or the middle ear is filled with fluid, as in otitis media, can be detected by otoscopy. In the Weber tuning fork test, the sound is heard loudest in the affected ear. This is conductive hearing loss, and the prognosis is usually good. If the hearing loss is due to damage to the sensory cells in the inner ear, or to the nerve cells in the auditory nerve or in the brain (sensorineural hearing loss), the otoscopy findings may be normal even if the patient is almost deaf in that ear. Even with thorough

investigation, in many cases, no definite cause is found for this type of hearing loss. This is known as idiopathic sudden sensorineural hearing loss (SSHL), commonly referred to as sudden deafness.

Large variation

SSHL occurs in all age groups, with an estimated 1000–1500 cases in Norway each year. Severity varies from a mild loss of some hearing frequencies to deafness in the most severe cases. Spontaneous improvement often occurs within a few weeks, but approximately half of patients experience permanent hearing reduction with impaired speech perception and spatial hearing. Sudden hearing loss in one ear is a dramatic event with negative consequences for quality of life, social interaction and working life (1). Many also experience bothersome tinnitus, and some encounter dizziness and balance problems.

Hyperbaric oxygen therapy

The recommended standard treatment for this condition is oral prednisolone for 10–15 days, to be initiated as soon as possible. Intratympanic steroids are used in some cases. Unfortunately, evidence of efficacy is limited, and better treatment options are called for (2).

Several studies have shown that hyperbaric oxygen therapy can be effective (3). Patients breathe pure oxygen under pressure for 90 minutes daily for 10–20 days. The effect is assumed to be based on increased oxygenation of the cochlea, reduction of oedema and/or anti-inflammatory mechanisms, but adequate evidence to justify incorporating this treatment into standard care is lacking. Otorhinolaryngology and hyperbaric chamber specialists in Norway have therefore initiated a large-scale national randomised multicentre clinical trial to evaluate the effect (4). To ensure early treatment, the trial includes patients with symptoms up to seven days after onset.

Prompt treatment

It has become apparent in the clinical trial that many patients with sudden hearing loss are referred too late to initiate the necessary treatment in time or to be considered for inclusion in the trial. We recommend that in primary care settings, possible explanations are sought for sudden hearing loss, such as trauma, infection or a blocked ear canal due to wax, blood or pus. An assessment should also be made for eardrum damage or to see if the middle ear is filled with fluid. In cases with uncertain or inconclusive findings, particularly for concurrent vertigo and tinnitus, sensorineural hearing loss should be suspected. The nearest otolaryngology department, specialist or clinical trial centre should be contacted immediately to determine if urgent intervention is necessary or if follow-up the next working day is sufficient.

Relevant reference works, such as the Norwegian Online Medical Handbook (*Norsk Elektronisk Legehåndbok*), the Emergency Primary Healthcare Manual (*Legevakthåndboka*) and the Otorhinolaryngology Guide (*Veilederen for øre-nese-halsfaget*), have recently been updated or are currently being revised in order to reflect the importance of prompt treatment for SSHL.

REFERENCES

1. Härkönen K, Kivekäs I, Rautiainen M et al. Quality of Life and Hearing Eight Years After Sudden Sensorineural Hearing Loss. Laryngoscope 2017; 127: 927–31. [PubMed][CrossRef]

2. Chandrasekhar SS, Tsai Do BS, Schwartz SR et al. Clinical Practice Guideline: Sudden Hearing Loss (Update). Otolaryngol Head Neck Surg 2019; 161 (suppl): S1–45. [PubMed][CrossRef]

3. Joshua TG, Ayub A, Wijesinghe P et al. Hyperbaric Oxygen Therapy for Patients With Sudden Sensorineural Hearing Loss: A Systematic Review and Meta-analysis. JAMA Otolaryngol Head Neck Surg 2022; 148: 5–11. [PubMed][CrossRef]

4. Helse Bergen. SuDHO: Plutselig uforklarlig hørselstap og trykkammerbehandling. https://www.helse-bergen.no/kliniske-studier/sudho-plutselig-uforklarlig-horselstap-og-trykkammerbehandling Accessed 28.2.2024.

Publisert: 8 April 2024. Tidsskr Nor Legeforen. DOI: 10.4045/tidsskr.24.0065
Received 30.1.2024, accepted 28.2.2024.