Idiopathic Sudden Sensorineural Hearing Loss (ISSNHL)

SEE ALSO: Hearing loss, audiogram

DESCRIPTION – Sensorineural hearing loss of greater than 30 dB over 3 contiguous pure-tone frequencies occurring within a 3-day period without an identifiable cause.

HOW TO ASSESS

Red Flags:

- Idiopathic sudden sensorineural hearing loss (ISSNHL) is a diagnosis of exclusion
- Consider herpes zoster oticus if pain or vesicles of pinna/ear canal

On History:

- Sudden onset of painless unilateral hearing loss generally noticed on awakening in the morning
- Associated with unilateral tinnitus 70% (often ipsilateral)
- Associated with mild dysequilibrium 40-50%
- Absence of otorrhoea, otalgia, headache, neurological symptoms, vesicles involving the pinna and/or ear canal

On Examination:

- Normal ear canal and tympanic membranes
- Rinne positive tuning fork test (air conduction>bone conduction) in mild/moderate hearing loss and *false* Rinne negative (bone conduction>air conduction due to sound conduction via the cranium being heard by the non-test ear) in severe/profound losses. Weber's test lateralizes to the non-affected ear. If a tuning fork is unavailable, the Hum Weber may be used. In this test, if the patient hums, the sound will often be heard in the non-affected ear with SSHL and in the affected ear with a conductive loss
- Whisper-voice testing confirms loss
- No cranial nerve abnormality
- No stigmata of autoimmune disease

On Investigation:

- Audiogram required on the same day or next working day showing ISSNHL of at least 30 dB in three frequencies with onset over less than 3 days

ACUTE MANAGEMENT:

- If not contraindicated, prescribe prednisolone 1mg/kg/d orally up to 60 mg daily for ten days then taper over one week
- However, commencement of steroids should occur following patient education regarding ISSNHL
- If audiogram is not available same day, commence oral prednisolone empirically and confirm hearing loss with audiogram and review appointment next working day
- Corticosteroids may be commenced for cases presenting within one month of the initial sudden hearing loss
- If oral corticosteroids are contraindicated, refer for intra-tympanic steroid injection
- There is no evidence for antiviral therapy in ISSNHL
- Refer urgently to neurologist if other focal neurological abnormalities present

FOLLOW UP:

- Arrange repeat audiogram and ENT outpatient follow up in 2 weeks

DISCHARGE INSTRUCTIONS:

- Discuss potential side-effects of short-term corticosteroid course (see Appendix 1)

REFERENCES:

Clinical Practice Guideline: Sudden Hearing Loss Robert J. Stachler et al *Otolaryngology -- Head and Neck Surgery* 2012 146: S1

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REVIEW DATE:

26/09/2016

Appendix 1

Patient Education Discussion Points for Idiopathic Sudden Sensorineural Hearing Loss (ISSNHL) (From Robert J. Stachler et al Otolaryngology -- Head and Neck Surgery 2012 146: S1)

The cause of sudden sensorineural hearing loss (SSNHL) is often not readily apparent and thus called idiopathic. It rarely affects both ears and can be associated with other symptoms such as tinnitus, vertigo, and fullness in the ear.

Approximately one-third to two-thirds of patients with ISSNHL may recover some percentage of their hearing within 2 weeks.2 Those who recover half of their hearing in the first 2 weeks have a better prognosis.234 Patients with minimal change within the first 2 weeks are unlikely to show significant recovery.

Early recognition of ISSNHL is important. Although there is a lack of evidence-based research, it is generally accepted that early intervention may increase recovery.

Many treatments have been proposed for ISSNHL, but research about their effects is limited by small sample size and varying experimental designs. The benefits of therapy may include more prompt and complete recovery of hearing, but side effects also must be considered when choosing among the available options.

Watchful waiting is an alternative to active treatment as between one-third and two-thirds of patients may recover hearing on their own and can be monitored with repeat hearing tests.

Sudden hearing loss can be frightening and may result in embarrassment, frustration, anxiety, insecurity, loneliness, depression, and social isolation. Individual or group counselling can be helpful in supporting patients with ISSNHL.

Audiologic rehabilitation needs to be addressed as soon as the hearing loss is identified. This includes counselling and discussion of nonsurgical and surgical amplification and hearing restoration options.

Evidence Table

Author/s	Title	Source	Level of Evidence (I – VII)	Comments
Robert J. Stachler et al	Clinical Practice Guideline: Sudden Hearing Loss	Otolaryngology - Head and Neck Surgery 2012 146: S1	I	

The Hierarchy of Evidence

The Hierarchy of evidence is based on summaries from the National Health and Medical Research Council (2009), the Oxford Centre for Evidence-based Medicine Levels of Evidence (2011) and Melynk and Fineout-Overholt (2011).

I	Evidence obtained from a systematic review of all relevant randomised control trials.
II	Evidence obtained from at least one well designed randomised control trial.
III	Evidence obtained from well-designed controlled trials without randomisation.
IV	Evidence obtained from well designed cohort studies, case control studies, interrupted time series with a control group, historically controlled studies, interrupted time series without a control group or with case series.
V	Evidence obtained from systematic reviews of descriptive and qualitative studies.
VI	Evidence obtained from single descriptive and qualitative studies.
VII	Expert opinion from clinician, authorities and/or reports of expert committees or based on physiology.