



SUDDEN HEARING LOSS

Sudden hearing loss (SHL) is a mysterious condition of the inner ear in which partial or total hearing loss occurs. SHL is defined as greater than 30 dB hearing reduction, over at least three contiguous frequencies, occurring over 72 hours or less. It occurs most frequently in the 30 to 60 year age group and affects males and females equally. The hearing loss usually occurs suddenly or over several hours. This condition usually affects only one ear and may be accompanied by tinnitus, vertigo, or both. The hearing loss may involve different parts of the hearing frequency range and may vary from mild to moderate. About 1/3 of people with SHL awaken in the morning with the hearing loss.

Causes of SHL:

The mechanism by which SHL occurs is not completely understood. In the majority of cases SHL does not indicate the presence of a serious health condition and it often occurs in otherwise healthy individuals. It has on occasion been associated with conditions such as common viral illnesses, Lyme disease, vascular disease, autoimmune phenomena, perilymphatic fistula (leakage of inner ear fluid), Meniere's disease, acoustic neuroma, head injury, or "barotrauma" such as from scuba diving. The cause of the hearing loss is rarely known with certainty, since other testing is usually normal and the delicate nature of the inner ear prevents biopsy without permanently injuring it.

Work-up of SHL:

SHL is diagnosed with an audiogram documenting a decline in hearing. A complete history and physical exam is performed to look for potential causes of the hearing loss. In some cases the doctor may choose to treat and monitor recovery without any further testing. An MRI scan of the brain and inner ear may be performed to assess for possible causes, including tumors or cysts of the hearing nerve that goes to the brain or conditions such as multiple sclerosis. CT scan of the inner ear can be helpful in select cases and allows evaluation of the bony structure of the inner ear and assessment of any irregularities that potentially led to the hearing loss. Also, blood tests may be ordered to further evaluate other potential causes.

50-60% of patients with SHL may have spontaneous recovery of lost hearing. Patients that recover more hearing in the first couple weeks after onset of the hearing loss have a better outcome than those that do not. Factors that are associated with a better hearing outcome include a minor hearing loss, no vertigo associated with the hearing loss, and treatment within 1-2 weeks of the onset. Recurrence of hearing loss in the affected ear is rare.

Treatment of SHL:

Treatment of sudden hearing loss includes the use of steroids. Steroids reduce inflammation and may be administered systemically via the oral route or may be injected through the eardrum (intratympanic route). Intratympanic injection of steroids through the eardrum into the middle ear allows drug penetration into the inner ear through the membranes of the inner ear. In some patients, both oral and intratympanic steroids will be administered, so that the highest concentration of medication is delivered to the inner ear.

Antiviral medications may be administered to treat the possible viral cause of the hearing loss. Acyclovir, valacyclovir, or famciclovir, all types of antiviral medications, may be used to treat this condition. Patients with suspected elevated inner ear pressure as the cause of the hearing loss may be treated with diuretics. Diuretics are used to lower the inner ear pressure in conjunction with a low salt diet, caffeine avoidance, and no nicotine intake.

Conclusion:

Sudden hearing loss may improve, stay the same, or potentially get worse. Occasionally, the hearing loss may be permanent. Early treatment of this condition is of utmost importance. Avoidance of loud noise is imperative, both in the affected ear and the unaffected ear. It is common that the affected ear will be more sensitive to sounds after sudden hearing loss. If hearing loss persists, a hearing aid may be indicated. If complete loss of hearing occurs in one ear, a special hearing aid or an implanted bone anchored hearing device may be helpful.

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