

schwannomas are slowly progressive hearing loss and tinnitus from compression of the cochlear nerve. Vertigo occurs in fewer than 20% of patients, but approximately 50% complain of imbalance or disequilibrium. Next to the auditory nerve, the cranial nerves most commonly involved by compression are the seventh (facial weakness) and fifth (sensory loss). Loss of the corneal reflex on the affected side is often the first clinical sign. Treatment in most cases is surgical removal.

Meniere's syndrome (endolymphatic hydrops) is characterized by fluctuating hearing loss and tinnitus, episodic vertigo, and a sensation of fullness or pressure in the ear. Typically the patient develops a sensation of fullness and pressure, along with decreased hearing and tinnitus in one ear. Vertigo rapidly follows, reaching a maximum intensity within minutes and then slowly subsiding over the next several hours. The patient is usually left with a sense of unsteadiness and dizziness for days after the acute vertiginous episode. In the early stages the hearing loss is completely reversible, but in later stages a residual hearing loss remains. Up to 50% of patients with idiopathic Meniere's syndrome frequently have a positive family history, suggesting genetic predisposing factors. The key to the diagnosis of Meniere's syndrome is to document fluctuating hearing levels in a patient with the characteristic clinical history. Medical therapy for endolymphatic hydrops includes dietary sodium restriction and oral diuretics.

Acute unilateral deafness usually results from damage to the cochlea and may be caused by viral or bacterial labyrinthitis or vascular occlusion in the territory of the anterior inferior cerebellar artery. Perilymphatic fistulas may also cause abrupt unilateral deafness, usually in association with tinnitus and vertigo.


Drugs that cause acute irreversible bilateral hearing loss include aminoglycosides, cisplatin, and furosemide. Salicylates may cause reversible hearing loss and tinnitus.

Treatment of Hearing Loss

The best treatment is prevention, particularly by the appropriate use of earplugs for those working in a noisy environment. Hearing aids help patients with conductive hearing loss, and developments with cochlear implants may help patients with sensorineural hearing loss.

Prospectus for the Future

Optical coherence tomography (OCT) is an emerging technology in the assessment of retinal layer thickness. This technology has been used in multiple sclerosis research. It has been used to correlate retinal layer thickness with severity of multiple sclerosis. This may have important implications for future research in this field.

 For a deeper discussion on this topic, please see Chapter 423, "Diseases of the Visual System," and Chapter 424, "Neuro-Ophthalmology," in *Goldman-Cecil Medicine, 25th Edition*.

SUGGESTED READINGS

- Drori T, Chapman J: Diagnosis and classification of neuromyelitis optica (Devic's syndrome), *Autoimmune Rev* 13:531–533, 2014.
- Toosy AT, Mason DF, Miller DH: Optic neuritis, *Lancet Neurol* 13:83–99, 2014.

