

Imaging of Sensorineural Hearing Loss

Thean Yean Kew

University Kebangsaan Malaysia, Malaysia

Sensorineural hearing loss (SNHL) has a variety of causes, and imaging is often employed to ascertain a causative lesion. This lecture will consider this topic in both adults and children. The mainstay of imaging modalities in the investigation of SNHL is cross sectional i.e. temporal HRCT and MRI, though they are used with differing emphases in adults and children.

In adults, vestibular schwannomas constitute 90% of all lesions causing SNHL. This tumour, however, has many mimickers which may also cause SNHL. The imaging findings of various cerebellopontine angle lesions, and other inflammatory conditions (e.g. labyrinthitis ossificans) will be presented together with differentiating features. MRI with administered Gadolinium is the main modality of choice, with HRCT utilised in specific indications.

Children with congenital SNHL are approached differently. In our institution, a combination of temporal HRCT and heavily T2 weighted three dimensional MRI sequences are used for a thorough inner ear phenotyping. Exquisite neural anatomy is now routinely available by high resolution MR imaging (CISS 3D), providing vital pre-operative planning capabilities to our cochlear implant candidacy programme. The categorisation system of inner ear anomalies used in HCTM will be presented. A short quiz will also be shown.