

differences have been identified (lower in ethnic Chinese compared to Malays and Indians). Data estimating the prevalence of hearing loss in ageing Singaporeans is scant. Thresholds of >40 dB in the better ear were found in 54% and in at least one ear in 87%. Untreated hearing loss in the elderly results in significant decline in the quality of life of both the individual and their family. Self-perception of hearing loss is a very poor indicator of the presence of hearing loss. Between 20 and 33% of hearing impaired seniors were willing to consider a hearing aid; between 23 and 83% felt that it was unnecessary. Seniors who are independent in their activities of daily living (ADLs) are more likely to consider hearing aids than those who are ADL dependent and housebound.

Conclusions: Hearing loss and cognitive impairment will become increasing public health concerns. Further studies assessing whether the treatment of hearing loss can slow the rate of cognitive decline among older adults are required.

doi:10.1017/S0022215116005521

ID: IP056

Transient hearing loss and objective tinnitus induced by mouth opening: a rare connection between the temporomandibular joint and middle ear space

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Learning Objectives:

Objectives: To describe objective tinnitus complicated with transient low-tone hearing loss coinciding with mouth opening, which was related to the connection between the mandibular fossa and middle ear space.

Patients: A 41-year-old man presented with tinnitus, ear fullness, and hearing loss in the left ear on mouth opening.

Main Outcome Measures: Clinical case records, audiological data, and radiological analyses including computed tomography (CT) and magnetic resonance imaging.

Results: Hearing thresholds on the ipsilateral side, which were evaluated with mouth opening, showed elevations of

approximately 20 dB in the frequencies below 1000 Hz. Again, peak pressure on the tympanogram deviated negatively to -220 mmH₂O under mouth opening without changing peak amplitude. These results showed that the tensor tympani would not have contributed to movement of the ear drum in the present case. High-resolution CT with multi-planar reconstruction showed a connection between the mandibular fossa and middle ear space, as revealed by a gas collection around the joint capsule evaluated in 2 phases (with and without mouth closing). Ear symptoms resolved after myringotomy.

Conclusions: Although an influence of temporomandibular disorder (TMD) on tinnitus perception has been debated, whether this association is causal or fortuitous has remained contentious. The present case showed a unique feature of tinnitus attributed to a connection between the mandibular fossa and middle ear space. This connection might be related to the petrotympanic fissure (with or without variant course), which is a narrow slit allowing the TMJ and middle ear space to communicate. Radiological analysis including high-resolution CT with multi-planar reconstruction referring to the petrotympanic fissure would be helpful to clarify the pathogenesis of patients suffering from otological symptoms related to TMD.

doi:10.1017/S0022215116005533

ID: IP057

The mastoid tegmen: A new clinical radiological classification

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Learning Objectives: Variations in normal tegmen and inner ear anatomy.

Surgical considerations when operating near the tegmen.

Introduction: The tegmen is a thin, variable plate of bone that separates the mastoid and middle ear cavity from the intracranial compartment. Serious complications such as cerebrospinal fluid leakage, neural tissue injury may arise when operating near the tegmen. One important risk factor for dural complications is the low placement of the tegmen. This study aims to determine the radiographic location of the tegmen tympani using the lateral semicircular canal (LSCC) as a landmark in adult patients with normal temporal bones.

Methods: 100 high resolution temporal bone CT scans from patients with hearing loss were examined retrospectively. We included scans from adult patients with normal temporal bone anatomy and no previous ear surgery. The distance between the LSCC and the lowest point of the tegmen tympani was measured in both the sagittal and coronal planes. 60 patients with cholesteatoma having undergone mastoidectomy procedures within the past 6 years were also analyzed retrospectively.

Results: The mean tegmen height was 4.1 mm in the coronal plane and 2.5 mm in the sagittal plane. The measured heights using the LSCC as our landmark demonstrated a unimodal distribution with some variance.