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Intracochlear Schwannoma: A Case Report

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Abstract

We report a case of 62-year-old man who presented with progressive right hearing loss (high frequencies) and diagnosed as intracochlear schwannoma on right side. It is a rare, cause hearing loss unilaterally and treatable. Because its located in small structure, small size lesion and different clinical presentation, the diagnosis is challenge.

Keywords: Intracochlear schwannoma, Hearing loss, Acoustic neuroma, Temporal bone tumor, MR images.

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Introduction

Schwannomas are benign tumors. Schwannomas originate from nerve (Schwann cells). These are more commonly located at the cerebellopontine angle or IAC. These tumors are rare raised from neural element in semicircular canals, cochlear or vestibular areas. If these tumors are raised from these areas called intralabyrinthine schwannomas. Here, I report a case of schwannoma, which was intracochlear in location.

Case Report

A 62-year-old man presented with progressive right sided hearing loss (high frequencies). He denied tinnitus, past otitis media, and trauma. MRI brain with gadolinium contrast performed and showed a small enhancing mass seen in the right cochlea, involving the basal and second turns, size 3 mm (Figure 1). On axial heavily T_2 weighted

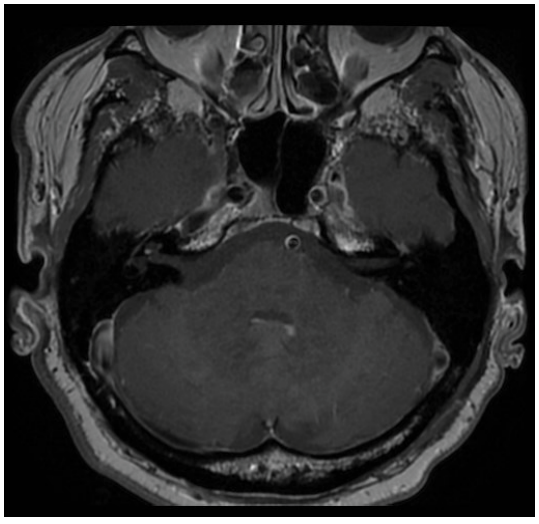

Figure 1. *MRI scan of brain.*

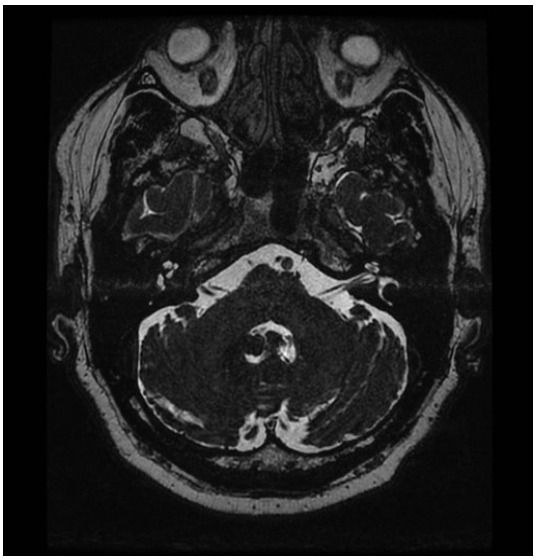

Figure 2: *Posterior parts of brain.*

FSE images showed hypointense lesion in posterior parts of basal and second turns (Figure 2). Therefore, a intracochlear schwannoma diagnosis was made.

Follow up by serial MRI after 12 months was advised to assess tumor development. If there is significant progression in size of tumor or symptom, surgical removal is advised.

Discussion

First described intracochlear schwannoma was in 1917 [1], by temporal bone specimens archive. Intralabyrinthine schwannomas classified according to location of schwannoma in inner ear. For example, intracochlear, intravestibular and intravestibulocochlear schwannoma [2]. Main presenting symptom is hearing loss [3]. Tinnitus, vertigo, imbalance, and aural fullness are other symptoms.

MRI with contrast is considered the best investigation to diagnose intracochlear lesions [4], which showed enhanced lesion in cochlear. The most important differential diagnosis is labyrinthitis. However, acute infectious or inflammatory processes are usually normal on T_2-weighted images, and an intracochlear schwannoma may present as a filling defect. Labyrinthitis showed an enhancement, commonly pronounced and sharp less and affects all cochlea or the vestibular system. However, with time the enhancement becomes less and disappear some time [5].

In acute labyrinthitis, no soft tissue mass or filling defect is seen in the labyrinth. The chronic labyrinthitis present with unsharp loss signal intensity on T_2 within labyrinth and show enhancement during its fibrous stage but no enhancement at ossific stage. It also diagnosed by history and CT scan of temporal bone, in early stages can be normal [6,7].

Hemorrhage has a variable signal on T_2 WIs but hyperintense on T_1 WIs [6,7]. Rarely, Lipoma, seen as lesion on high signal intensity on T_1 WIs and suppressed on fat-suppression sequences. Therefore, T_1-weighted postcontrast enhanced images are essential to confirm that a lesion is a schwannoma [6,7].

Treatment choices for intracochlear schwannomas are surgery, "wait, watch and scan" with MRI or stereotactic radiosurgery [8-12]. Large schwannomas with symptoms, surgery is the choice. Small schwannomas without significant symptom Follow up by MRI is advised. For small schwannomas with severe hearing impairment and vestibular symptoms, surgery is advised. Thus, the management depends on extent of the tumor, hearing impairment, presence of vestibular symptoms and the progressive growth of the tumor [11,12].

Conclusion

We present a rare location of schwannoma in intracochlear area. MRI with contrast is the diagnostic method of choice. Patients with long history of symptom and focal cochlear enhancement unusual for an infectious or inflammatory process, an intracochlear schwannoma should be consider. Treatment according to the size of the tumor and symptoms.

Acknowledgement

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