

Diagnosis: Intracanalicular Arachnoid Cyst

Amit Agrawal MCh¹

Nitish Baisakhiya MS

Brij Raj Singh DMRD

¹. Associate Professor of Neurosurgery

Tel: +917-152-33-698

Email: dramitagrawal@gmail.com

Arachnoid cysts limited to the internal auditory canal are rare. They are found in about 0.5% of operations for suspected neoplasm of the internal auditory canal.¹⁻³ A 14-year-old boy presented with difficulty in speech discrimination and tinnitus in the left ear. There were no other complaints. His general and systemic examinations were normal. Higher mental functions were normal. All cranial nerves were normal except for the sensorineural hearing loss in the left ear. Motor and sensory examinations were normal. There were no cerebellar signs or nystagmus. Blood investigations were normal. Audiometry showed high frequency hearing loss in the left ear (between 30-40 db). The brain MRI showed a small lesion that was hypointense on T1, and hyperintense on T2 and CISS 3D sequences (Fig. 1). A diagnosis of arachnoid cyst was considered. The lesion was excised by the translabyrinthine approach. Differential diagnoses of intracanalicular lesions include vestibular schwannoma (commonest), meningioma, facial neuroma, cavernous haemangioma, lipoma and arachnoid cyst.^{1,4} Lesions confined to the internal auditory canal usually present with cochleovestibular symptoms; sensorineural hearing loss, tinnitus and balance disturbances.⁴ Involvement of the facial nerve is more common with meningioma than any other lesion.⁴ However, even a long-standing arachnoid cyst

of the internal auditory canal can cause compression atrophy of the nerve trunks with associated neurological deficits.³ Previously, there was no absolute method for differentiating an intracanalicular neoplasm from an arachnoid cyst.³ However, with the advent of high-resolution air CT cisternography and MRI techniques, a preoperative diagnosis can be suspected in many cases.^{2,4,5} Small intracanalicular arachnoid cysts can have a similar radiographic appearance to acoustic neuroma and need to be differentiated radiologically.² A CISS sequence allows further appreciation of the cystic nature and extension of the arachnoid cysts with their relations to nerves and vessels.⁵

References

- 1 Bohrer PS, Chole RA. Unusual lesions of the internal auditory canal. *Am J Otol* 1996;17(1):143-9.
- 2 Brooks ML, Mayer DP, Sataloff RT, Myers DL, Spiegel JR, Ruiz S. Intracanalicular arachnoid cyst mimicking acoustic neuroma: CT and MRI. *Comput Med Imaging Graph* 1992;16(4):283-5.
- 3 Schuknecht HF, Gao YZ. Arachnoid cyst in the internal auditory canal. *Ann Otol Rhinol Laryngol* 1983;92(6 Pt 1):535-41.
- 4 Hilton MP, Kaplan DM, Ang L, Chen JM. Facial nerve paralysis and meningioma of the internal auditory canal. *J Laryngol Otol* 2002;116(2):132-4.
- 5 Doll A, Abu Eid M, Kehrli P, Esposito P, Gillis C, Bogorin A et al. Aspects of FLAIR sequences, 3D-CISS and diffusion-weight MR imaging of intracranial epidermoid cysts. *J Neuroradiol* 2000;27(2):101-6.