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An Unusual Tumor of The Cerebellopontine Angle

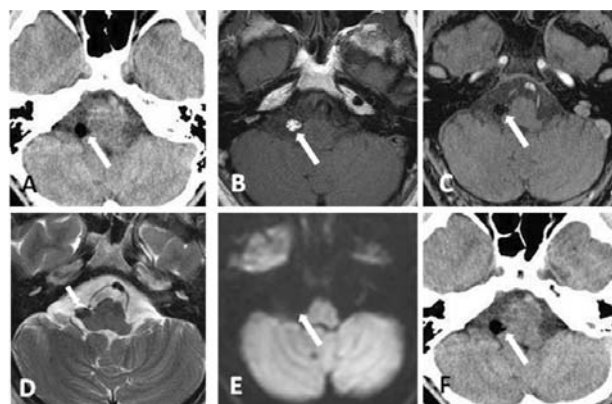


Figure 1: (A) Initial axial CT scan shows CPA hypodense mass, (B) T1-weighted magnetic resonance imaging (MRI) scan show hyperintense mass, (C) T1-weighted post-contrast fat saturated imaging shows attenuation of the hyperintensity and no enhancement, (D) T2-weighted MRI reveals the chemical-shift artifact, (E) DWI demonstrates an isointense mass, (F) Axial CT scan at 3-year follow-up reveals CPA mass with no change in size. (Arrow denotes the mass in each figure)

Intracranial lipomas are rare lesions that account for 0.1% to 1.5% of all intracranial tumors and are often asymptomatic.³ Lipomas located in critical areas like cerebellopontine angle (CPA), may become progressively symptomatic, as they usually tend to encase and incorporate blood vessels and cranial nerves. These tumors are maldevelopmental masses that arise from abnormal differentiation of the meninx primitive. Till date, fewer than 150 cases have been reported in the literature.¹

A 48-year-old male complained of neck stiffness for three years. Computed Tomography (CT) scan showed small and round hypodense CPA mass (**Figure 1A**). Magnetic resonance imaging (MRI) of brain showed hyperintensity on T1-weighted image (**Figure 1B**). On T1-weighted post contrast fat saturated imaging, no enhancement was identified and the entire mass demonstrated attenuation in keeping with it being composed of fat. Features were, thus, consistent with an

intracranial lipoma (**Figure 1C**), ruling out dermoid cyst. T2-weighted MRI showed the chemical-shift artifact, a result of the difference of the resonance frequency between lipid and water protons also corroborates the diagnosis of lipoma (**Figure 1D**). Teratoma also can be a differential diagnosis but it usually presents as a heterogenous mass with enhancement. Diffusion-weighted imaging (DWI) showed isointense mass without T2 shine-through effect ruling out lesions like epidermoid cyst (**Figure 1E**). The patient underwent conservative treatment and follow-up CT scan 3 years later showed no change in size of the mass (**Figure 1F**).

Debulking of the tumor, mainly aimed at brain stem and cranial nerve decompression, should only be considered in cases of disabling and uncontrolled neurologic symptoms and signs such as vertigo, trigeminal neuralgia, facial weakness, or hemifacial spasm. Bacciu A et al showed that the hearing could be preserved in only 18% of the patients who underwent hearing preservation surgery and 29.4% had

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post-operative facial palsy.² These tumors are indolent, but infiltrate along cranial nerves, making complete removal difficult due to the high risk of postoperative cranial nerves deficit.² Thus, imaging diagnosis is the key to management and essential to avoid unnecessary surgery in such cases.

References

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