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CASE REPORT

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A case report of a Cerebellopontine angle lipoma revealed by vertigo

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Abstract

Cerebellopontine angle (CPA) lipoma is an extremely rare lesion representing only 0.1% of all the CPA tumors. We present a case of a 56-year-old woman with a 6-month history of vertigo. Cerebral MRI showed a left CPA lipoma. The patient was managed conservatively.

KEYWORDS

Cerebellopontine angle, lipoma, tumors, vertigo

1 | INTRODUCTION

Lipoma is a benign tumor characterized by the growth of adipose tissue. It rarely occurs in the intracranial compartment representing only 0.08% of intracranial tumors, and it is located in the interhemispheric fissure in approximately 45% of all intracranial lipomas.[1,2] Cerebellopontine angle (CPA) and the internal auditory canal (IAC) are extremely rare localizations of lipoma. Only 0.1% of tumors in the CPA tumors are lipomas.[3]

In this report, we present a rare case of a CPA lipoma revealed by vertigo in a 56-year-old woman.

2 | PATIENT OBSERVATION

A 56-year-old woman was referred to our department with a 6-month history of intermittent vertigo. Both neurologic and otorhinolaryngology examinations showed no abnormalities.

Magnetic resonance imaging (MRI) showed a lesion measuring 5.5 * 3.8 mm in the left CPA cistern, just above the IAC. The lesion had a homogeneous high T1 signal with a signal drop on the fat-saturated sequence confirming the fatty composition of the mass (Figure 1). Auditory brainstem response was normal on both sides.

Therefore, we decided to manage the patient conservatively with symptomatic treatment (acetylleucine) and regular radiologic follow-up.

In the 1-month follow-up, the patient was asymptomatic although she stopped using her treatment.

An MRI was performed 1 year later and showed no modification in the tumoral size (Figure 2).

3 | DISCUSSION

Cerebellopontine angle lipomas are very rare representing only 0.1% of CPA tumors. In 2021, Totten et al. conducted a systematic review and found 219 cases of CPA/IAC lipoma in English literature.[1] The first report of a CPA lipoma dates back to 1859.[4]

The CPA lipomas have a slight male predilection (53 vs. 47%) with a median age at presentation of 42 years old.[1] CPA lipomas are usually unilateral affecting the right side in 49% of cases. Bilateral lesions only occurred in 4% of patients.

Clinically, hearing loss is the most common presenting symptom, occurring in 69% of patients followed by vertigo

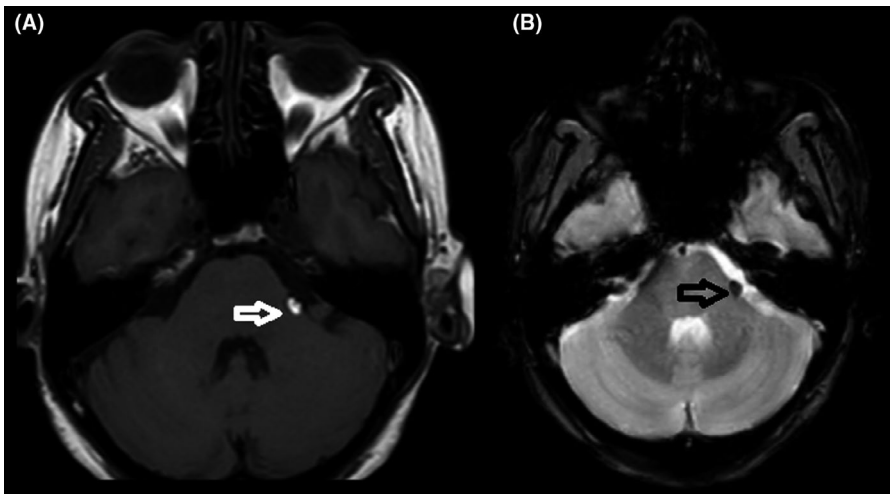

FIGURE 1 Initial axial MRI series demonstrating a hyperintense lesion on T1- (A) and hypointense on fat suppression sequences (B)

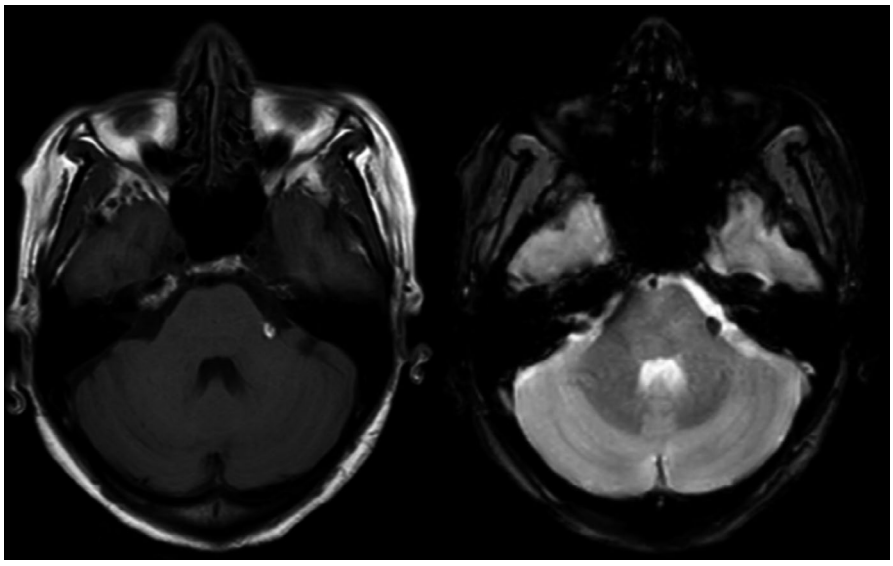

FIGURE 2 1-year follow-up MRI demonstrating no modification

and tinnitus.[1,5] Sometimes, CPA lipomas may be incidentally discovered on brain imaging, as they can remain asymptomatic.[2]

Computed tomography typically shows a well-demarcated homogenous low-attenuation mass with negative HU values. On MRI, lipomas are easily recognized by a homogenous high-intensity T1 signal with a signal loss on fat-saturated sequences confirming their fatty composition. No enhancement is observed after injection of the gadolinium. Facial and vestibulocochlear nerves can be observed crossing through the lipoma, with no significant mass. The most important radiologic differential diagnosis of CPA lipomas includes vestibular schwannomas, meningiomas, arachnoid cysts, and epidermoids.

Conservative, nonoperative attitude in the management of CPA lipomas has become increasingly more common and is associated with significantly reduced morbidity as compared to operative management.[1] However, the surgery may be indicated in extremely rare cases for patients with severe symptoms related to compression phenomena, most of the cranial nerves. The reported data showed that total removal of the lipomas is very difficult and that surgery is associated with significant morbidity. The main reason was that CPA lipomas were adherent to cranial nerves and the brainstem, making their dissection very challenging, with accompanying postoperative cranial nerve deficient.

Many authors suggested that CPA lipomas are congenital malformations and not actual neoplasms.[4,6] This theory is based on their nongrowing pattern since lipoma growth has only occurred in 3 of 219 reported tumors (1.4%).[1]

Poor surgical outcomes and the nongrowing character of lipomas led to the choice of a conservative approach over surgery. Therefore, surgery should only be considered for symptomatic patients in whom conservative treatment has failed.

4 | CONCLUSION

Cerebellopontine angle lipomas are rare benign lesions with a male predominance. Given poor surgical outcomes and rare growth of lipomas, conservative nonoperative management is highly recommended. Surgical excision of CPA lipomas should be only considered in the case of intractable or progressive symptoms or tumor growth.

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CONFLICT OF INTEREST
The authors declare that they have no conflicts of interest concerning this article.

AUTHOR CONTRIBUTIONS
Mohamed Amine Hadj Taieb, Kais Maamri managed the patient. Mohamed Amine Hadj Taieb acquired the data. Mohamed Amine Hadj Taieb, Kais Maamri prepared the manuscript. Mohamed Amine Hadj Taieb, Ghassen Elkahla selected the image. Mehdi Darmoul reviewed the manuscript.

ETHICAL APPROVAL
Ethics approval was not required for this study.

CONSENT
The authors certify that written informed consent was obtained from the patient to publish this report in accordance with the journal's patient consent policy.

DATA AVAILABILITY STATEMENT
All data are available as part of the article and no additional source data are required.

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