Chondromyxoid fibroma of the petrous apex

A 31-year-old man was admitted to our hospital with a two-week history of frontal headache. An initial head computed tomography (CT) examination showed a well-circumscribed, lobulated, low-density mass, which was 2.5 × 2 × 1.5 cm in size on the right petrous region of the temporal bone, and contained multiple amorphous calcifications (Fig. 1 a). Magnetic resonance imaging (MRI) was performed the next day. The mass was homogeneously hypointense on T1-weighted images and diffusely hyperintense on T2-weighted images except for regions of multiple spotty hypointensities that possibly represented calcifications (Fig. 1 b, c). After gadolinium-DTPA administration, the lesion showed diffusely heterogeneous contrast.

Figure 1  Transverse CT scan (A) demonstrates a well-defined, lobulated, low-density mass containing multiple amorphous calcifications in the sellar region. On T1-weighted axial MRI (B), the mass shows homogeneous hypointensity whereas, on T2-weighted axial MRI (C), there is a diffuse homogeneous hyperintensity except for regions of multiple spotty hypointensities. With gadolinium-DTPA administration (D), the mass is revealed to have a ‘honeycomb’-like pattern of enhancement. With medium-power magnification (E), the tumor shows a characteristic lobular pattern, with stellate cells arranged loosely in the myxoid and chondroid matrix (hematoxylin–eosin stain, original magnification × 200).
enhancement of a ‘honeycomb’ appearance due to multiple intratumor areas of low signal intensity (Fig. 1 d).

A transcranial approach for a right temporal craniotomy was performed. On histological examination, the tumor had a characteristic lobular pattern at low magnification. The lobular areas showed stellate cells arranged loosely within a myxoid and chondroid matrix that became more condensed along the periphery of the lobules, appearances consistent with chondromyxoid fibroma (CMF) (Fig. 1 e).

Although CMF has been reported at a number of anatomical sites, craniofacial CMF is extremely rare: fewer than 50 cases of CMF involving the craniofacial bone have ever been reported.

CMF is most frequently seen in young adults during the second or third decades of life [1]. On CT scans, it appears as a well-circumscribed, relatively homogeneous, soft-tissue mass with curvilinear bony margins at its periphery, consistent with a slow-growing tumor. In contrast to previous reports, the lesion in our case here showed cortical erosion. Also, CT attenuation of the mass was much less than seen in other reported cases, indicating that this tumor had significant water content. Matrix calcification is common in craniofacial CMF, found in approximately 75% of cases [2]. Our present case also exhibited matrix calcification, which was readily apparent on CT.

Due to the rarity of CMF, no definitive MRI criteria have been established. Classically, the tumor is heterogeneously enhanced by gadolinium compared with other tissue components. However, in the case presented here, the enhancement pattern of the mass had a unique honeycomb appearance, and is the first such case to be reported in English-language journals.

In the present case, our tentative primary diagnosis was chordoma because of their similar radiological features. Intracranial chordoma may occasionally arise unilaterally from the petrous apex, a finding that was seen in up to 15% of cases in one series [3]. Enchondroma and chondrosarcoma were also considered for our differential diagnosis, as the majority of intracranial enchondroma and chondrosarcoma arise along the petro-occipital fissure. However, linear, globular or arc-like calcifications found in enchondroma and chondrosarcoma can help to distinguish them from CMF [3].

Conflict of interest statement

All the authors declare no conflicts of interest for our manuscript.

References


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Repeated MR-based intravenous thrombolysis in a patient with short interval stroke recurrences

Thrombolyse intraveineuse répétée sur critères IRM chez un patient présentant une hémiplegie récidivante à quelques jours d'intervalle

We present data demonstrating that, in case of brain ischemic events in quick succession, MRI should be preferred to have the maximum of informations to exceptionally consider the feasibility of repeated IV thrombolysis (IVT).

A previously healthy 77-year-old woman was admitted because of sudden left hemiplegia with dysarthria (Table 1). DWI demonstrated acute stroke located at the posterior arm of the right internal capsule (IC) (Fig. 1A). Intracranial time-of-flight MRA was normal. T2 and T2* images showed a diffuse dilatation of perivascular Virchow-Robin

Figure 1: A: Initial MRI before IVT1 (Day 0); B-B': MRI performed at Day10 between IVT2 and IVT3; C: MRI before IVT3 (Day 17). FLAIR MRI remains unchanged during and after ischemic recurrences. T2 weighted imaging (B') demonstrates the dilatation of VRSs and the normal appearance of the posterior arm of the right IC between IVT2 and 3.

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