Hypertrophic olivary degeneration

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DESCRIPTION

A 30-year-old man underwent MRI of the internal auditory meatus as a routine follow-up after excision of a large left vestibular schwannoma, 2.5 years previously. MRI images showed an incidental finding of left hypertrophic olivary degeneration (figure 1 and figure 2). This phenomenon occurs as a result of Wallerian degeneration of

Figure 2 Axial (panel A) and sagittal (panel B) T2-weighted images demonstrating a well-defined hyperintense, expansile lesion centred in the left olivary nucleus. Features are consistent with HOD secondary to a lesion in the triangle of Guillain and Mollaret (Figure 1). HOD, hypertrophic olivary degeneration.

Figure 3 The medullary lesion does not enhance following contrast administration (panel A) and does not restrict diffusion (panel B). Differential diagnoses of HOD include infarction, neoplasms and demyelination. HOD, hypertrophic olivary degeneration.

Figure 1 Axial T2-weighted sequence showing intratumoral haemorrhage within a large left cerebello-pontine angle lesion in keeping with a vestibular schwannoma (panel A). Axial fluid attenuated inversion recovery (FLAIR) image through the posterior fossa after 6 months demonstrating atrophic changes and haemosiderin deposition in the left middle cerebellar peduncle (panel B).

the olivary nucleus secondary to a lesion in the triangle of Guillain and Mollaret, also known as the dento-rubro-olivary pathway (figure 3). The differential diagnoses of hypertrophic olivary degeneration include infarction, infection, neoplasms and demyelination. Differentials can be excluded by the absence contrast enhancement (figure 2).

Contributors SA wrote the attached case report under the guidance of RG, consultant radiologist, who encountered the images from routine practice.

Competing interests None declared.

Patient consent Obtained.

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Learning points

- ▶ The degeneration occurring in hypertrophic olivary degeneration (HOD) is unique, as it causes hypertrophy rather than atrophy, a change which may last up to 3–5 years.¹ MRI findings vary according to the stage of the degenerative process, most commonly going through three stages on T2-weighted images: hyperintensity without hypertrophy, followed by hyperintensity with hypertrophy and ending with hyperintensity without hypertrophy.²
- ▶ HOD may be easily mistaken for an infarct or a neoplasm, particularly if the history of the patient is unknown.¹ Diffusion images and contrast studies help differentiation.
- ▶ The initial event could be due to a tumour, infarct or trauma affecting the dento-rubro-olivary pathway, although it most commonly occurs following haemorrhage in a patient with hypertension.²

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