Teaching Video NeurolImages: Vestibulo-ocular reflex defect in cerebellar stroke

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Figure Brain MRI

(A) Left cerebellar lesion, hyperintense on the diffusion-weighted imaging sequence (arrows in A and C). (B) Hypointense apparent diffusion coefficient sequence correlate of lesion shown in A. (C, D) Caudal extension of the lesion shown in A and B (thickness of cuts 5 mm).

A 69-year-old man presented with acute vertigo, nausea, and vomiting. The patient had left-beating nystagmus and an abnormal vestibulo-ocular reflex with corrective saccades on right head impulse (video 1). He had impaired pursuits to the left but no other cerebellar/neurologic findings (skew/hearing loss). MRI showed an acute stroke affecting the left cerebellar floculonodular region (figure). Prior research has shown that an abnormal head impulse test (HIT) strongly predicts a peripheral process, and is inversely associated with posterior fossa stroke.¹ Our case illustrates the limited specificity of this clinical test. Nine percent of patients with a positive HIT have cerebellar strokes.²

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Author contributions

Jens Witsch: clinical care of the patient, study concept, acquisition of data, revision of the manuscript for intellectual content. Monica Ferrer: acquisition of data, drafting of the manuscript. Dhasakumar Navaratnam: clinical care of the patient, study concept, acquisition of data, revision of the manuscript for intellectual content.

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