

Vertical Gaze Palsies From Unilateral Thalamic Infarction

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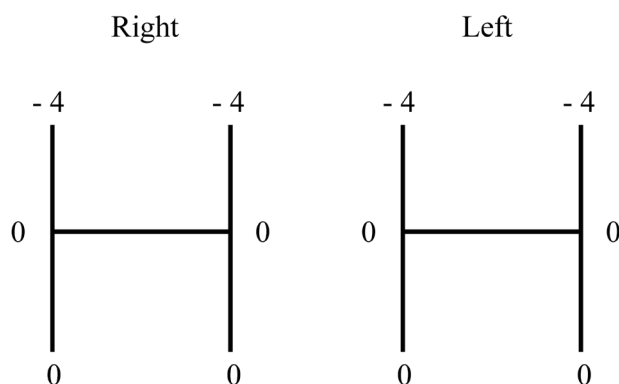


Figure 1. Charting eye movement showing a limitation of upward gaze.

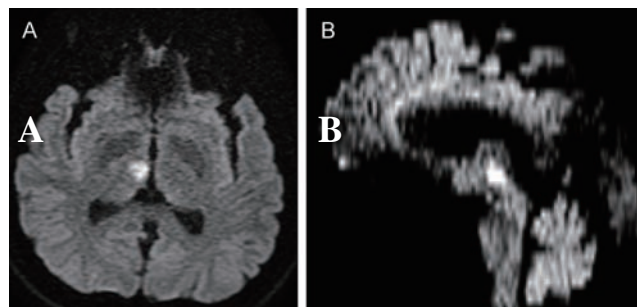


Figure 2. (A) Axial diffusion-weighted MRI showed an acute ischemic infarct in the right medial thalamus. (B) Mid-sagittal diffusion-weighted MRI showed right medial thalamic infarct without midbrain involvement.

A 38-year-old man with a history of hyperlipidemia presented with sudden onset of dizziness and double vision. Neurologic examination revealed upward vertical gaze palsies (figure 1). The rest of his cranial nerves and neurological examination was unremarkable. MRI revealed an acute lacunar infarct involving the right medial thalamus (figure 2). The patient was discharged with antiplatelet therapy; double vision fully disappeared within one month.

The pathways involved in vertical gaze are not fully understood but seem to be importantly located in the paramedian mesodiencephalic junction, involving the rostral interstitial nucleus of the medial longitudinal fasciculus (riMLF), the interstitial nucleus of Cajal (INC) and the posterior commissure (PC)^(1,2). Clark concluded this may be explained by interruption of decussation of the frontocortical fibers in the medial thalamus, as suggested by a case series of thalamic infarctions presenting as vertical gaze palsies⁽³⁾. Bhidayasiri et al. suggested that a lesion of one INC may induce bilateral vertical gaze palsies due to each INC projects to ocular motoneurons and to the opposite INC via the PC⁽⁴⁾. Unilateral

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paramedian thalamic infarction is a rare cause of bilateral vertical gaze palsies, and it may be overlooked in patients without detailed neurological examination.

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