A 45-year-old woman presented with acute vertigo and a vertical gaze palsy. Examination with Frenzel goggles showed that during vertical saccades the eyes were torsionally deviating to the left (counterclockwise from the patient’s point of view) and slowly returned to the initial zero torsion after the saccade (video on the Neurology® Web site at www.neurology.org; figure 1). This eye movement deficit together with a vertical gaze palsy is pathognomonic of an impaired function of the contralateral (right) interstitial nucleus of the medial longitudinal fasciculus (RIMLF) as confirmed by MRI (figure 2) and as seen in another patient.1 The RIMLF is the vertical-torsional saccade generator located in the rostral midbrain.

REFERENCE
Figure 2  T2-weighted axial MRI of the patient, showing the right midbrain infarct
Teaching Video NeuroImages: Unilateral RIMLF lesion: Pathologic eye movement torsion indicates lesion side and site

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