Late attacks of paroxysmal ocular tilt reaction

Figure MRI shows the calcified right-sided lesion of the thalamus and mesencephalon at the site of prior bleeding

A 54-year-old patient had a right mesodiencephalic hemorrhage in 1992, with residual double vision until 2000. He was symptom-free until 2010, when he developed fluctuating diplopia. We observed paroxysmal attacks of a right ocular tilt reaction (OTR) (video at Neurology.org), whereas in the interval he had a left OTR. MRI showed a calcification of the preexisting lesion (figure). The attacks are apparently caused by an excitation of the right interstitial nucleus of Cajal (INC),¹ as supported by the effectiveness of carbamazepine (100mg b.i.d.). The delayed onset can be explained by a reorganization of the excitatory and inhibitory synapses found in the INC.²

Olympia Kremmyda, MD, PhD, Claudia Frenzel, Michael Strupp, MD, FANA, FEAN

From the University Hospital, Campus Grosshadern, Munich, Germany.

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Correspondence to Dr. Kremmyda: Olympia.kremmyda@med.uni-muenchen.de

- Oh SY, Choi KD, Shin BS, Seo MW, Kim YH, Kim JS. Paroxysmal ocular tilt reactions after mesodiencephalic lesions: report of two cases and review of the literature. *J Neurol Sci* 2009;277:98–102.
- Horn AK, Helmchen C, Wahle P. GABAergic neurons in the rostral mesencephalon of the macaque monkey that control vertical eye movements. *Ann NY Acad Sci* 2003;1004:19–28.

Supplemental data
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