Teaching Video NeuroImages: Cerebellar esotropia

A pitfall in ophthalmology and neurology

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Neurology® 2019;93:e114-e115. doi:10.1212/WNL.0000000000007729

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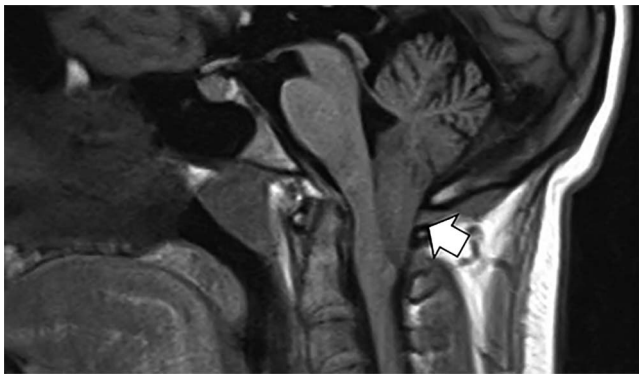
Figure T1-weighted axial MRI shows a type 1 Chiari malformation



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A 17-year-old girl presented with slowly progressive binocular horizontal diplopia, worse for distance viewing. She had distance esotropia (video), gaze-evoked nystagmus, broken smooth pursuit, reduced horizontal optokinetic nystagmus, and impaired vestibulo-ocular reflex suppression (VORS; video), in keeping with cerebellar dysfunction. The patient had full abduction during monocular viewing and head rotations, and normal saccadic velocities, excluding a bilateral sixth nerve palsy. An MRI scan confirmed a type 1 Chiari malformation (figure). A careful oculomotor assessment in patients with esotropia, including bedside VORS,[1] may identify cerebellar signs that would suggest the tropia is cerebellar in origin.[2] Cerebellar esotropia may arise from dorsal vermis impairment,[2] or possibly from floccular and paraflocculer dysfunction, explaining the associated abnormalities in smooth pursuit, optokinetic nystagmus, and VORS that share common neural pathways.

Study funding
Not targeted funding reported.

Disclosure
The authors report no disclosures relevant to the manuscript. Go to Neurology.org/N for full disclosures.

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Appendix Authors

Name	Location	Role	Contribution
Diego Kaski, MD	University College London, UK	Author	Designed and conceptualized study, drafted the manuscript for intellectual content, video editing, approved final version
Anne-Catherine Chapelle, MD	Centre Hospitalier, University of Liege, Belgium	Author	Drafted the manuscript for intellectual content, video acquisition, approved final version
Gordon Plant, MD	National Hospital for Neurology and Neurosurgery, UK	Author	Approved final version

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