

Video NeuroImages: Head titubation in anti-mGluR1 autoantibody-associated cerebellitis

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Video

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A 39-year-old woman presented with apathy, catatonia, and continuous large-amplitude oscillatory head movements (head titubation) evolving over 1 month (video, links.lww.com/WNL/A353). Severe ataxia developed weeks later. Brain MRI, EEG, and serologies were normal. Cell- and tissue-based assays were positive for anti-metabotropic glutamate receptor 1 (mGluR1) antibodies (serum 1:12,800, CSF 1:512; figure). Head titubation, a low-frequency cerebellar outflow tremor of the head associated with axial hypotonia, may appear in cerebellar abnormalities (Joubert syndrome, Dandy-Walker syndrome) or disorders affecting the anterior lobe of the cerebellum.¹ Subacute head titubation should raise suspicion for an mGluR1-associated autoimmune cerebellitis, especially if associated with psychiatric changes.²

Author contributions

J.L. Pedroso: case report project conception, organization, execution; writing of the first draft, review and critique. L.A. Dutra: case report project conception, organization, execution; writing of the first draft, review and critique. A.J. Espay: writing of the first draft, review and critique. R. Hofberger: case report project execution; writing of the first draft, review and critique. O.G. Barsottini: writing of the first draft, review and critique.

Study funding

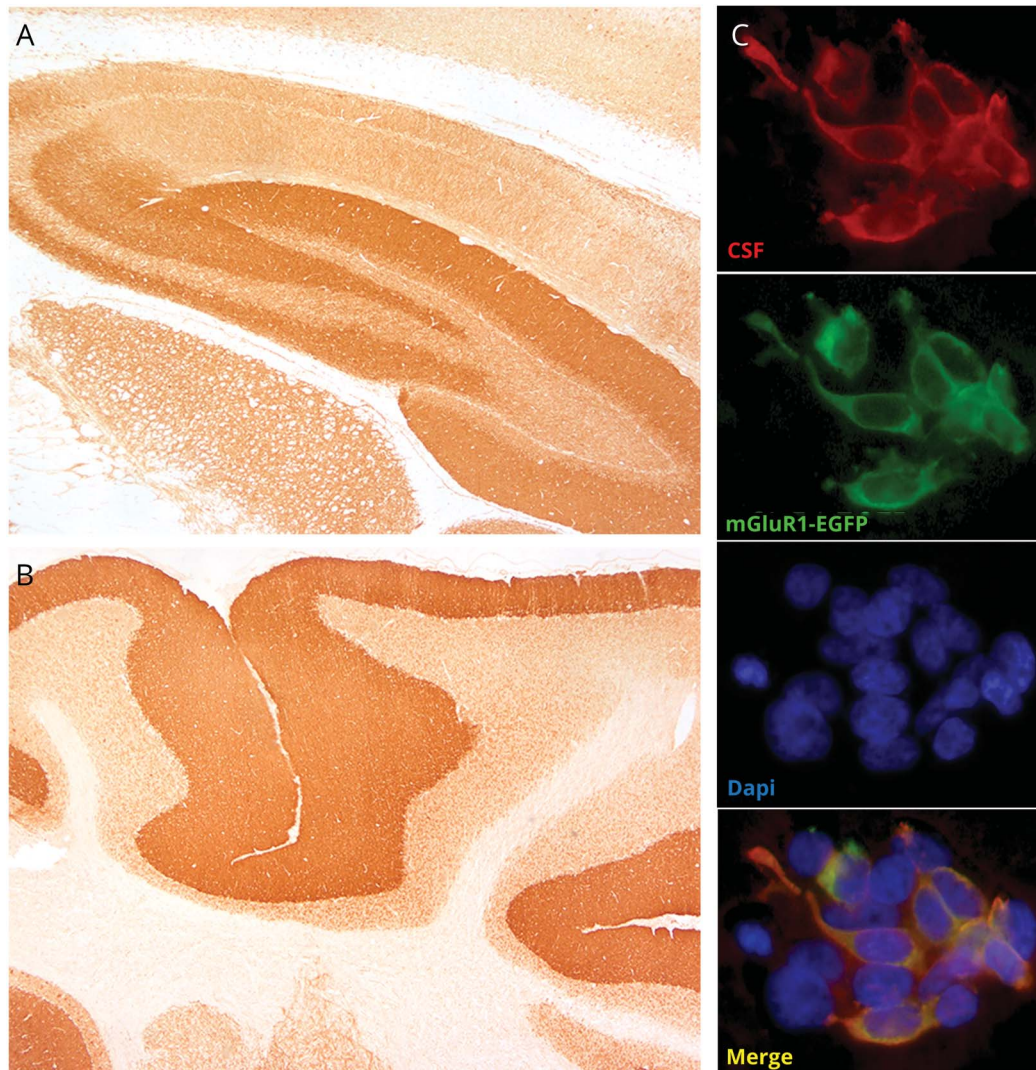
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Indirect immunohistochemistry on rat brain with patient's CSF shows a neuropil staining pattern in the dentate gyrus and CA3 sector of the hippocampus (A) and molecular layer of the cerebellum (B). Antibodies of the patient are identified on HEK293T cells transfected with mGluR1-EGFP (C; red: CSF of the patient, green: mGluR1-EGFP, blue: Dapi) (A, B: $\times 40$; C: $\times 400$).

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