Teaching Video NeuroImage: Subacute Cerebellar Ataxia in an Adolescent With Antibodies Against Metabotropic Glutamate Receptor Type 1

Author(s):
LiTing Goh, MBBS; Furene Sijia Wang,1,2; Velda Xinying Han, MRCPCH1; Jeremy Bingyuan Lin, MRCPCH1,2

Corresponding Author:
Velda Xinying Han, velda_han@nuhs.edu.sg

Affiliation Information for All Authors: 1. Khoo-Teck Puat-National University Children’s Medical Institute, National University Health System, Singapore; 2. Department of Paediatrics, Yong Loo Lin School of Medicine, National University of Singapore, Singapore

Equal Author Contribution:
Contributions:
LiTing Goh: Drafting/revision of the manuscript for content, including medical writing for content; Major role in the acquisition of data; Analysis or interpretation of data
Furene Sijia Wang: Drafting/revision of the manuscript for content, including medical writing for content; Major role in the acquisition of data; Analysis or interpretation of data; Additional contributions: literature search - Literature search - Velda Han Literature search - Jeremy Lin
Velda Xinying Han: Drafting/revision of the manuscript for content, including medical writing for content; Study concept or design; Analysis or interpretation of data; Additional contributions: literature search - Furene S Wang Literature search - Literature search - Jeremy Lin
Jeremy Bingyuan Lin: Drafting/revision of the manuscript for content, including medical writing for content; Study concept or design; Analysis or interpretation of data; Additional contributions: literature search - Furene S Wang Literature search - Literature search - Velda Han Literature search

Neurology® Published Ahead of Print articles have been peer reviewed and accepted for publication. This manuscript will be published in its final form after copyediting, page composition, and review of proofs. Errors that could affect the content may be corrected during these processes. Videos, if applicable, will be available when the article is published in its final form.
Figure Count: 0

Table Count: 0

Search Terms:
[1] Autonomic diseases, [137] Encephalitis, [319] Cerebrospinal Fluid, Anti-mGluR1 Encephalitis, Autoimmune Cerebellar Disease

Acknowledgment:
The authors would like to acknowledge and thank Dr Dimple Rajgor for her assistance in formatting, reviewing, and in submitting the manuscript for publication

Study Funding:
The authors report no targeted funding

Disclosures:
The authors report no relevant disclosures.

Preprint DOI:

Received Date: 2022-01-28

Accepted Date: 2022-08-03

Handling Editor Statement:
Submitted and externally peer reviewed. The handling editor was Whitley Aamodt, MD, MPH.
A 15-year-old boy developed progressive cerebellar dysfunction over three weeks.

Examination showed ataxic gait, unsteady tandem gait, horizontal nystagmus, intention tremor, and ataxia on heel-toe-shin testing (Video 1). Dysdiadochokinesia and dysarthria were found but not illustrated in the video. Neuroimaging and cerebrospinal fluid (CSF) biochemistry was normal. Serum and CSF metabotropic glutamate receptor type 1 (anti-mGluR1) auto-antibodies were found. His cerebellar function improved markedly within three months of initiating immunotherapy (Video 1). The median age of onset of anti-mGluR1 encephalitis is 55 years old.\cite{1,2} Paraneoplastic syndromes should be considered, but anti-mGluR1 encephalitis is often autoimmune in younger patients.\cite{1,2}


WNL-2022-201173_vid1 --- http://links.lww.com/WNL/C323

References


Video

**Title:** Subacute cerebellar dysfunction in adolescent with anti-mGlur1 encephalitis

**Legend:** The video shows our patient with abnormal cerebellar signs including broad-based ataxic gait and unsteady tandem gait, horizontal nystagmus, mild intention tremor with finger-nose testing, and pronounced ataxia on heel-toe-shin testing. This is followed by resolution of the abnormal cerebellar signs following immunotherapy.