Cerebellar Swelling Followed by Atrophy in Anti-Homer-3 Antibody Associated Cerebellitis

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A 26-year-old woman presented with dizziness for four weeks, accompanied by vertigo and imbalance for ten days. Physical examination revealed dysarthria, nystagmus, tremor, and severe ataxia. Infectious and malignant etiologies were excluded. High-titre anti-Homer-3 antibodies were detected in cerebrospinal fluid and serum. Neuroimaging showed prominent cerebellar swelling with enhancement (Figure). She got limited improvement despite aggressive immunosuppression. MRI at 2-months follow-up showed cerebellar atrophy, suggesting unfavorable prognosis.

Anti-Homer-3-associated cerebellitis is rare and usually presents with subacute-insidious onset with cerebellar atrophy, masquerading as multiple system atrophy\(^1,2\). To the best of our knowledge, this is the first case showing transition from cerebellar swelling to atrophy in anti-Homer-3-associated cerebellitis.

**Reference**


**Figure legend**

MRI findings on admission and at 2-months follow-up

(A) Initial T2-weighted fluid-attenuated inversion recovery (T2-FLAIR) imaging shows cerebellar hyperintensity and swelling. (B) Axial postcontrast T1-weighted imaging shows leptomeningeal enhancement. (C) Sagittal postcontrast T1-weighted imaging shows herniation of the cerebellar tonsils and effacement of the fourth ventricle. (D) Repeated MRI at 2-months follow-up shows resolution of the herniation and occurrence of cerebellar atrophy.
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