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**Teaching NeuroImage: Partially Reversible Widespread Leukoencephalopathy Associated With  
Atypical Hemolytic Uremic Syndrome**

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Patrizia Cenni: Major role in the acquisition of data; Analysis or interpretation of data

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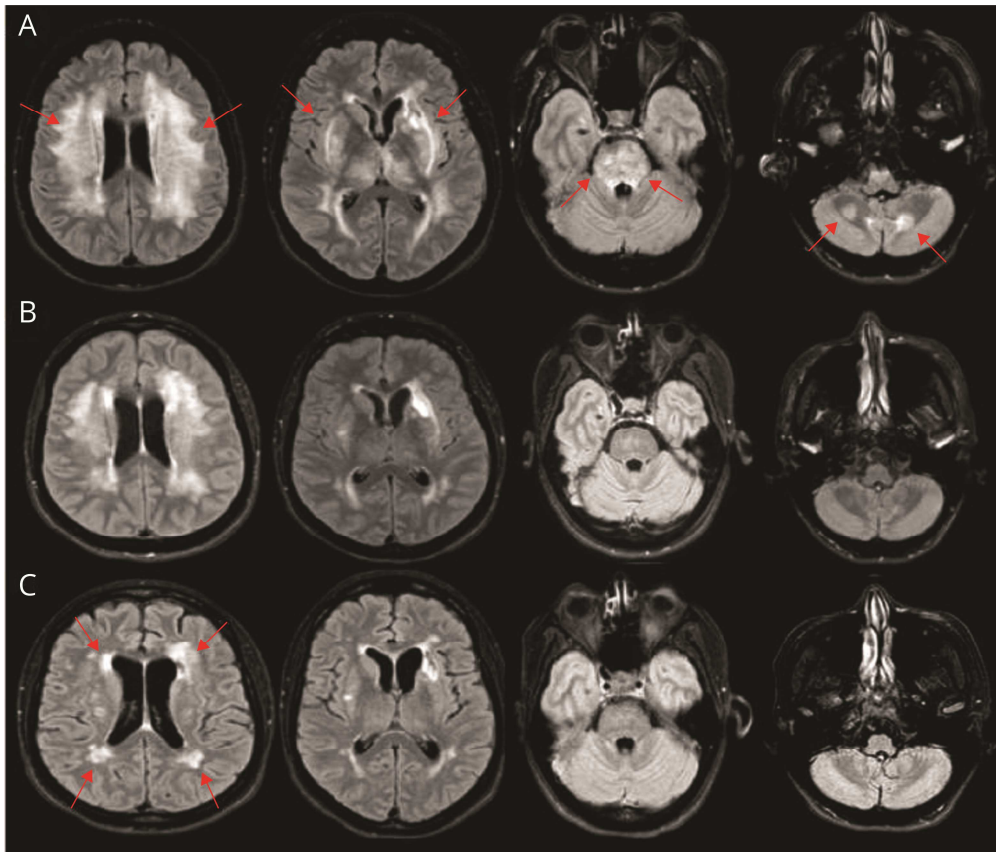
A 43-year-old woman presented with altered mental status and hypertension. She had a 3-day history of oliguria. Blood test detected microangiopathic hemolytic anemia, thrombocytopenia and severe kidney injury. Absence of shiga-like toxin, ADAMTS13-autoantibodies and normal ADAMTS13 activity were consistent with a diagnosis of atypical hemolytic uremic syndrome (aHUS), then confirmed by a renal biopsy. Genetic tests (*CFH*, *CFHR1-5*, *MCP/CD46*, *CFI*, *C3*, *CFB*, *THBD*, *DGKE*) were unremarkable. Nevertheless, a history of anemia and kidney failure in her younger brother suggested a genetic etiology.

Brain MRI revealed extensive T2-FLAIR hyperintensities. Treatment with eculizumab and twice-weekly hemodialysis resulted in prompt mental recovery and improvement of MRI abnormalities.

**(Figure 1)**

aHUS is an ultra-rare complement-mediated kidney disease occasionally associated with neurologic involvement.<sup>1</sup> Less extensive T2-FLAIR abnormalities involving every CNS structure have been reported also in diarrhea-associated HUS.<sup>2</sup> Here we presented a case of aHUS-related widespread leukoencephalopathy partially reverting upon treatment with eculizumab and hemodialysis.

**Figure 1. Partially reversible widespread leukoencephalopathy.** **A.** Admission brain MRI: Axial T2-fluid attenuated inversion recovery (FLAIR) sequences showing extensive hyperintensities of bilateral subcortical areas (“band-like”), basal ganglia, thalami, brainstem and cerebellar hemispheres (*arrows*). **B.** 1- and **C.** 3- month MRI showing partial resolution of T2-FLAIR hyperintensities and unrevealing disseminated subcortical ischemic lesions (*arrows*).



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## Appendix 1. Authors

Name	Location	Contribution
Ilaria Cani, MD	Department of Biomedical and Neuromotor Sciences, University of Bologna, Italy	Acquisition and analysis of neurological data, manuscript drafting
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Patrizia Cenni, MD	Neuroradiology Unit, S. Maria delle Croci Hospital of Ravenna, AUSL Romagna, Italy	Acquisition and analysis of neuroradiological data
Matteo Foschi, MD	Neurology Unit, S. Maria delle Croci Hospital of Ravenna, AUSL Romagna, Italy	Study design and conceptualization, analysis of neurological data, manuscript drafting and revision for intellectual content

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