



# Teaching NeuroImages: Extensive vasogenic edema in Bickerstaff brainstem encephalitis

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Ten days after respiratory infection, a 32-year-old woman presented with headaches, ataxia, and diplopia without encephalopathy. Brain MRI revealed extensive white matter, brainstem, and cerebellar vasogenic edema, without gadolinium enhancement, partially regressive during follow-up (figure, A). CSF revealed transient elevated protein level (1.01 g/L) and hypercellularity (123 neutrophils/mm<sup>3</sup>). Negative anti-GQ1b but positive anti-GD1a immunoglobulin G led to the diagnosis of Bickerstaff brainstem encephalitis (BBE). Symptoms resolved within 10 days without treatment. <sup>18</sup>FDG-PET showed bilateral temporo-parieto-occipital and cerebellar hypometabolism (figure, B). Neurologists should be aware that diffuse brain hypometabolism or vasogenic edema can be associated with BBE.<sup>1,2</sup>

## AUTHOR CONTRIBUTIONS

E. Nerrant, C. Fourcade, S. Coulette, C. Lechiche, and E. Thouvenot participated in drafting/revising the manuscript.

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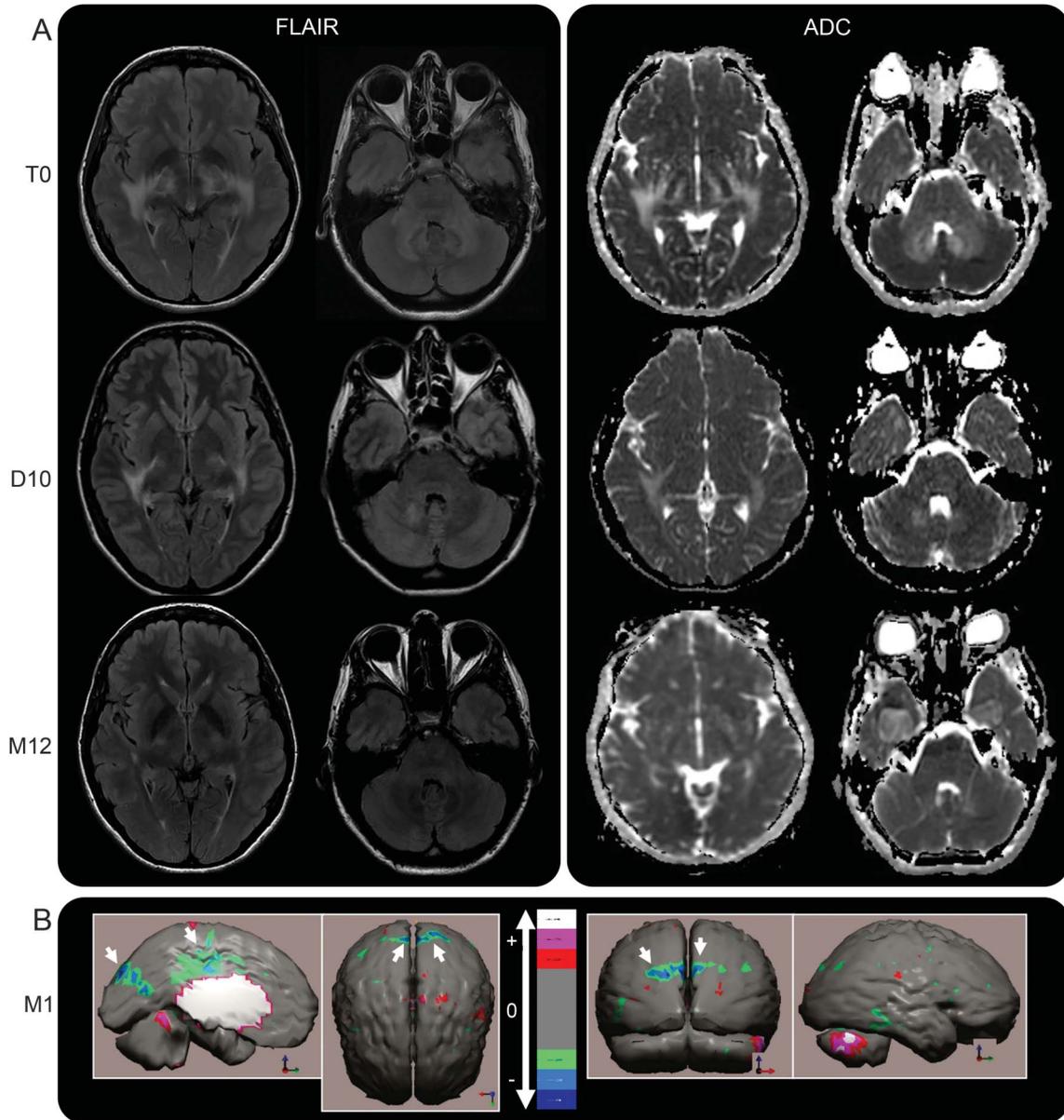
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## DISCLOSURE

The authors report no disclosures relevant to the manuscript. Go to [Neurology.org](http://Neurology.org) for full disclosures.

## REFERENCES

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(A) Initial MRI (T0) reveals fluid-attenuated inversion recovery (FLAIR) hyperintensities of the deep white matter, brainstem, and cerebellum, with increased diffusivity on apparent diffusion coefficient (ADC), progressively regressive at 10 days (D10) and 1 year (M1.2). (B) Brain <sup>18</sup>F-FDG-PET performed at 1 month (M1) shows focal temporo-parieto-occipital hypometabolism (arrows) and global cerebellar hypometabolism.

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