Teaching NeuroImages: Nitromethane-Induced Acute Reversible Encephalopathy

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Michele Besana: Major role in the acquisition of data; Study concept or design; Analysis or interpretation of data
Sofia Ananiadou: Major role in the acquisition of data
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A 60-year-old man presented to the emergency department reporting he accidentally swallowed a sip (about 20 mL) of nitromethane he used as fuel for his racing bikes. Over the following two days, he became stuporous, experienced tonic-clonic seizures, and ultimately fell into a coma. Brain MRI showed multifocal gray matter T2/FLAIR hyperintensities consistent with previously published findings of acute nitromethane encephalopathy (Figure 1 A and B). After one week the follow-up MRI showed massive vasogenic brain edema (Figure 1 C and D). Nonetheless, the patient’s condition was already improving with supportive therapy only. One month after his admission he was back to baseline and he was discharged; six months later brain MRI was normal (Figure 2).

Appendix 1: Authors

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<tr>
<th>Name</th>
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**References**

Captions

Figure 1: Brain MRI, axial (A, C) and coronal (B, D) FLAIR image. Brain MRI two days after the admission (A, B), showed multifocal signal abnormalities in the gray matter of both cerebral hemispheres (arrowheads in A), quadrigeminal plate and cerebellum (arrowheads in B). The follow-up brain MRI (C, D), performed during the 10th day of hospitalization, showed partial resolution of the gray matter lesions and development of extensive vasogenic brain edema.
Figure 2: Brain MRI, axial FLAIR images (A, B). MRI at discharge (A) showed reabsorption of the vasogenic edema, except for a faint residual hyperintensity of the splenium, and resolution of the gray matter lesions; six months later, a follow-up MRI (B) was normal.