Brain MRI evolution of metronidazole intoxication

Figure 1 Consecutive MRI in a patient with metronidazole intoxication

Axial fluid-attenuated inversion recovery (FLAIR) (A) and midsagittal T2-weighted (B) images show hyperintensity of corpus callosum. Hyperintensity of the cerebellar dentate nuclei is evident on a T2-weighted axial image (C). MRI on admission indicates less prominent hyperintensity of corpus callosum on an axial (D) and midsagittal FLAIR (E) image; note the cystic degeneration in the genu of the corpus callosum. Dentate nuclei appear normal (F).

A 64-year-old woman presented with a 6-month history of intermittent episodes of ataxia and dysarthria. She had been on metronidazole 1,500 mg daily for ulcerative colitis for 10 months. Cranial MRI 3 months before admission revealed hyperintensity in corpus callosum and bilateral dentate nuclei (figure 1, A–C). MRI on admission revealed cystic necrotic degeneration (figure 1, D and E) and cytotoxic edema (figure 2) in corpus

Figure 2 Restricted diffusion in the corpus callosum indicating cytotoxic edema

On admission, diffusion-weighted imaging (A) and apparent diffusion coefficient (B) sequences were consistent with cytotoxic edema in corpus callosum.

callosum, whereas dentate nuclei appeared normal (figure 1F). The cumulative metronidazole dose was 450 g, relatively high,¹ which could cause white matter injury by various mechanisms (appendix e-1 on the *Neurology*[®] Web site at www.neurology.org). Although early MRI findings are typical for metronidazole toxicity,² delayed cystic necrosis is unusual.

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