Neuroimaging Highlight

Editor: David Pelz

Reversible Splenial Lesion Following Rapid Withdrawal of Carbamazepine

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Can J Neurol Sci. 2014; 41: 504-505

A 19-year-old man with paroxysmal kinesigenic dyskinesia (PKD) taking 200mg carbamazepine per day for six years was admitted to our hospital because of a medical certificate for soldiers. The dyskinesias were usually precipitated by sudden movements and these attacks occurred several times a day and had a brief duration (less than one minute). The drug was abruptly withdrawn seven days before the brain imaging and video-electroencephalography monitoring. Magnetic resonance imaging showed cytotoxic edema in the splenium, which were completely resolved three months later (Figure).

Transient and isolated splenial lesions due to withdrawal of antiepileptic drugs (AEDs) have been reported in both epileptic and non-epileptic patients.[1] These splenial lesions are characterized by a stereotyped localization and a history of

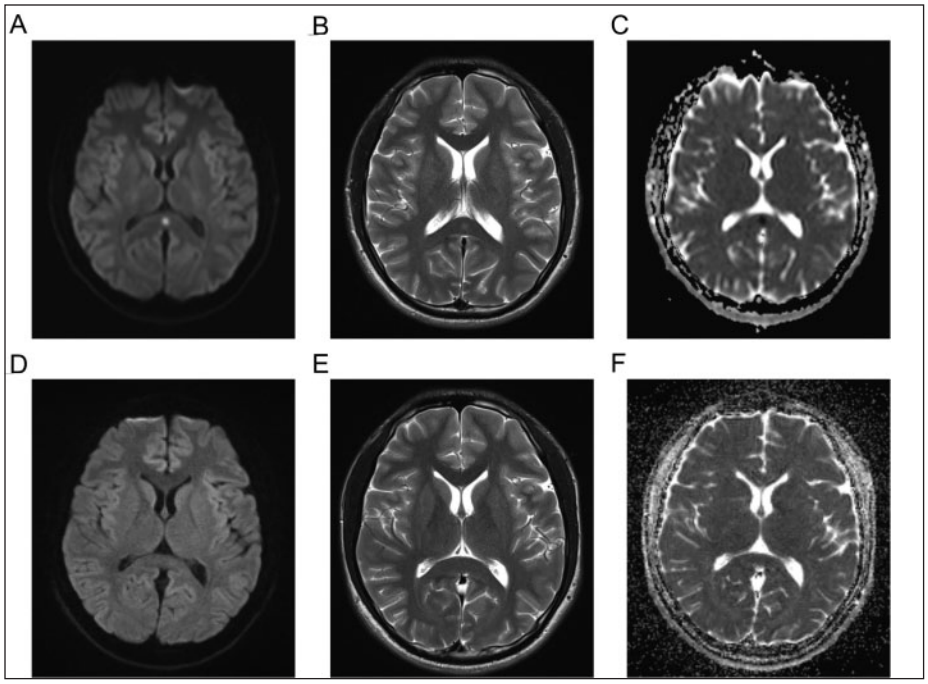

Figure: *(A) Diffusion-weighted and (B) T2-weighted magnetic resonance images demonstrate a high intensity signal in the splenium of the corpus callosum, and (C) an apparent diffusion coefficient map image shows reduced diffusion in the aforementioned area. Three months later, all the lesions are completely resolved (D-F).*

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Received January 7, 2014. Final Revisions Submitted January 13, 2014.
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discontinuation of anti-epileptic drugs without any obvious clinical symptoms or signs.[2] Because transient splenial lesions can be associated with many other conditions such as high-altitude cerebral edema, infection, vasculitis, metabolic disturbances, malnutrition and chemotherapy where AEDs are not involved, other factors should be ruled out for the cause of this condition.[1]

This case represents a further example of the association between anti-epileptic drugs and transient splenial lesion and suggests that neurologists who take care of non-epileptic hyperkinetic disorders should be aware of such a finding.

References

1. Mori H, Maeda M, Takanashi J, et al. Reversible splenial lesion in the corpus callosum following rapid withdrawal of carbamazepine after neurosurgical decompression for trigeminal neuralgia. J Clin Neurosci 2012;19(8):1182-4.
2. Gürtler S, Ebner A, Tuxhorn I, Ollech I, Pohlmann-Eden B, Woermann FG. Transient lesion in the splenium of the corpus callosum and antiepileptic drug withdrawal. Neurology 2005;65 (7):1032-6.

https://doi.org/10.1017/S0317167100018564 Published online by Cambridge University Press