

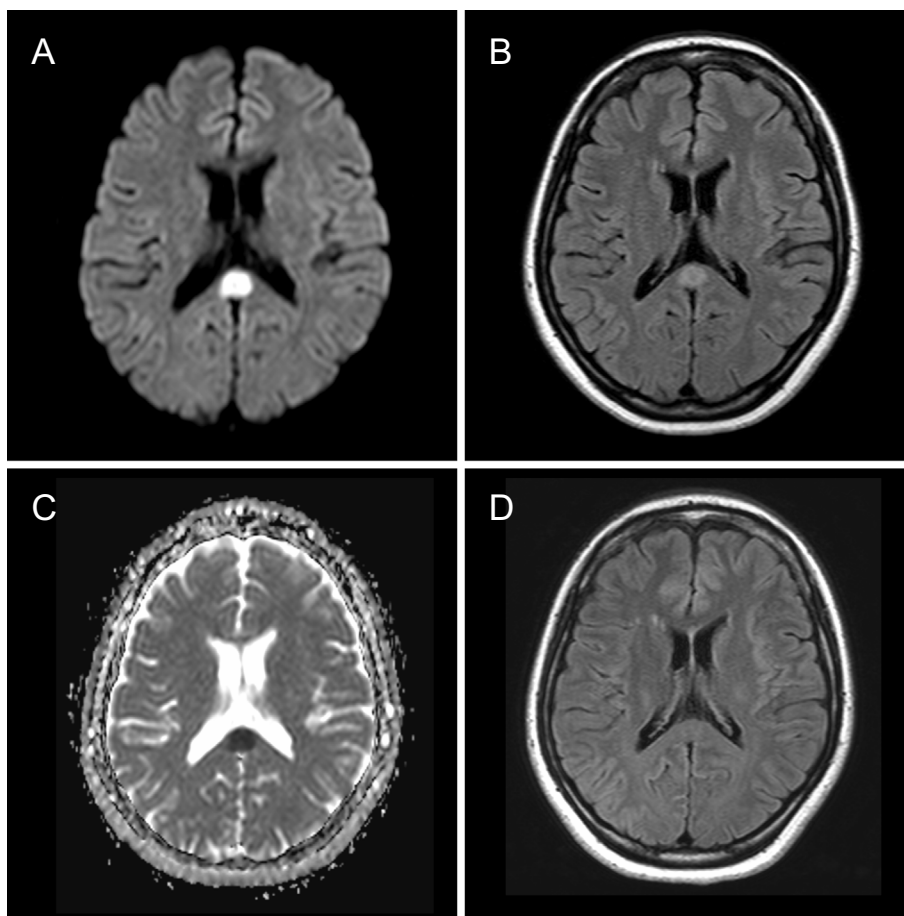
Transient Splenial Lesion Following Abrupt Withdrawal of Carbamazepine

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Key words: corpus callosum, antiepileptics, hyponatremia, polyuria, diabetes insipidus

(Intern Med 56: 989-990, 2017)

(DOI: 10.2169/internalmedicine.56.7910)



Picture.

Transient splenial lesion (TSL) of the corpus callosum is associated with various disorders, including encephalitis, seizure and metabolic disturbances (1). We herein report a patient showing TSL after switching antiepileptic medications. A 46-year-old woman with epilepsy had been taking car-

bamazepine for decades. Asymptomatic hyponatremia (125 mEq/L) was detected, and carbamazepine was switched to zonisamide. Three days later, she complained anorexia, fatigue and polyuria, although the hyponatremia was resolved (141 mEq/L). Antidiuretic hormone (ADH) was undetectable

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Received for publication June 27, 2016; Accepted for publication August 16, 2016

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(<1.2 pg/mL). The findings from a neurological examination and electroencephalography were normal. Brain magnetic resonance imaging (MRI) revealed a round lesion in the splenium of the corpus callosum with hyperintense signals on diffusion-weighted imaging (Picture A) and fluid-attenuated inversion recovery (Picture B) with a low apparent diffusion coefficient value (Picture C), which spontaneously disappeared on follow-up MRI one month later (Picture D). Carbamazepine potentiates the effect of ADH, reducing endogenous ADH secretion (2). Taking carbamazepine for years seems to increase the risk of endogenous ADH reduction, according to previous reports. The abrupt withdrawal of carbamazepine might have caused transient polyuria and TSL through ADH deficiency and elevation of the osmotic pressure.

The authors state that they have no Conflict of Interest (COI).

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* **19**: 1182-1184, 2012.
2. Stephens WP, Coe JY, Baylis PH. Plasma arginine vasopressin concentrations and antidiuretic action of carbamazepine. *Br Med J* **1**: 1445-1447, 1978.

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