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CLINICAL IMAGE

Vigabatrin-associated diffusion MRI abnormalities in tuberous sclerosis

Mahesh Thapa · Paritosh C. Khanna

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A 6-month-old boy with infantile spasms and tuberous sclerosis complex (TSC) was treated with the antiepileptic drug Vigabatrin for 1 month. A routine follow-up MRI demonstrated asymptomatic diffusion abnormalities in bilateral thalami (Fig. 1, diffusion, Fig. 2, ADC map, *arrows*). Similar abnormalities were identified in globi pallidi and brainstem. Also note multiple cortical tubers from the child's TSC in Fig. 2 (*asterisks*).

Recent studies in the pediatric population show Vigabatrin is associated with reversible diffusion abnormalities in globi pallidi, thalami, brainstem and dentate nuclei. The risk was greater in younger infants [1, 2]. Signal abnormalities were not associated with any symptoms and were reported to be transient and dose dependent, with the majority demonstrating spontaneous resolution, even without the discontinuation of Vigabatrin [2]. Although the action mechanism isn't completely understood, the possibility of Vigabatrin causing myelin edema has been proposed [1].

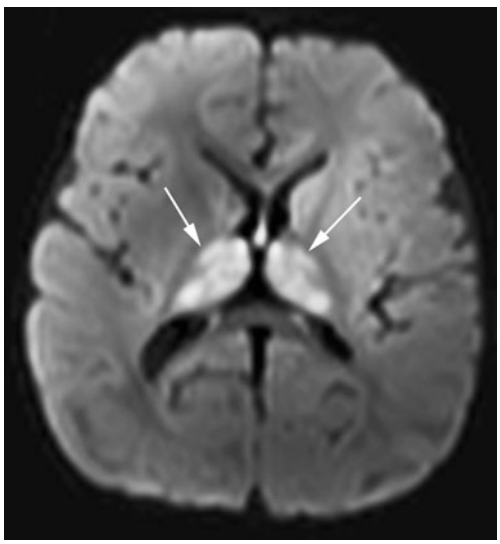

Fig. 1 Axial diffusion weighted MRI

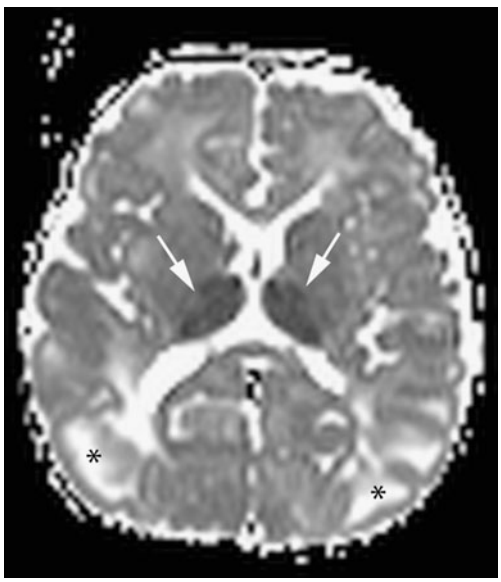

Fig. 2 Axial apparent diffusion coefficient (ADC) map MRI

M. Thapa (✉) · P. C. Khanna
Department of Radiology, Seattle Children's Hospital
and Regional Medical Center,
4800 Sand Point Way NE,
Seattle, WA 98105, USA
e-mail: thapamd@u.washington.edu

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