Images in Neurology: Giant Tumefactive Perivascular Spaces Associated with Pediatric Hemiplegic Migraine

J Crawford, N Kadom

Citation

J Crawford, N Kadom. *Images in Neurology: Giant Tumefactive Perivascular Spaces Associated with Pediatric Hemiplegic Migraine*. The Internet Journal of Neurology. 2006 Volume 7 Number 2.

Abstract

A 17 year old right handed female with a past medical history of migraine presented with left hemisensory paresthesias and transcient hemiparesis lasting 2 hours. Diffusion MRI revealed no evidence of acute infarction. Additional MRI sequences demonstrated large non-enhancing cystic structures of the left cerebellum and pons. The patient was placed on daily Topiramate migraine prophylaxis without reoccurrence of symptoms at 2 years.
Giant tumefactive perivascular spaces, otherwise known as prominent Virchow-Robin spaces, are pial-lined structures containing interstitial fluid and penetrating arteries/arterioles.1-2 They may be confused with cystic neoplasms and can occasionally be associated with headache and hydrocephalus. This case illustrates the importance of distinguishing enlarged perivascular spaces from a vascular malformation or cystic neoplasm; obviating the need for neurosurgical intervention.

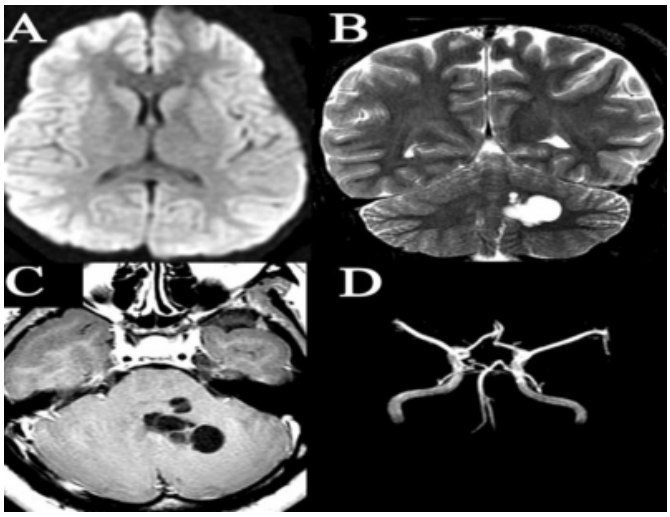
CASE REPORT

A 17 year old right handed female with a past medical history of migraine presented with left hemisensory paresthesias and transcient hemiparesis lasting 2 hours. Diffusion MRI revealed no evidence of acute infarction. Additional MRI sequences demonstrated large non-enhancing cystic structures of the left cerebellum and pons. The patient was placed on daily Topiramate migraine prophylaxis without reoccurrence of symptoms at 2 years.

Giant tumefactive perivascular spaces, otherwise known as prominent Virchow-Robin spaces, are pial-lined structures containing interstitial fluid and penetrating arteries/arterioles.[1,2] They may be confused with cystic neoplasms and can occasionally be associated with headache and hydrocephalus. This case illustrates the importance of distinguishing enlarged perivascular spaces from a vascular malformation or cystic neoplasm; obviating the need for neurosurgical intervention.

Figure 1

Figure 1: A. Axial diffusion weighted MRI obtained 2 hours after symptom resolution revealed no restriction to suggest infarction. B. Coronal T2 weighted MRI shows fluid isointense lesions in the left cerebellar white matter. C. Axial post-contrast T1 MRI images demonstrate lack of contrast enhancement and extension into the left dorsal pons and the left middle cerebellar peduncle. D. MR angiogram multiplanar image projection shows a normal circle of Willis.



References

1. Salzman KL, Osborn AG, House P, et al. Giant tumefactive perivascular spaces. AJNR Am J Neuroradiol 2005;26:298-305.
2. Cakirer S. MR imaging findings in tumefactive

perivascular spaces. Acta Radiol 2003;44:673-674.

Author Information

J.R. Crawford
Department of Neurology, Children's National Medical Center, The George Washington University

N. Kadom
Department of Radiology, Children's National Medical Center, The George Washington University