

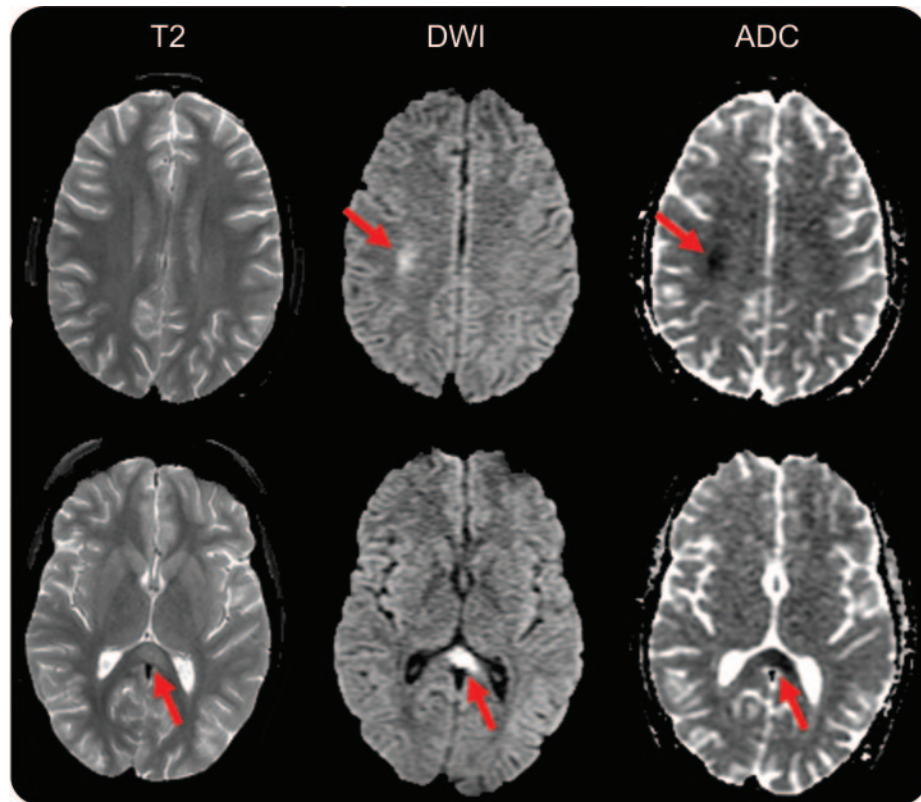
Teaching NeuroImages: Methotrexate leukoencephalopathy mimicking a transient ischemic attack

Georgios Manousakis,
MD

David Hsu, MD, PhD
Carol A. Diamond, MD
Howard Rowley, MD

Address correspondence and
reprint requests to Dr. Georgios
Manousakis, Neurology
Residency Program, University of
Wisconsin Hospital and Clinics,
600 Highland Avenue, Madison,
WI 53792
gmanousakis@uwhealth.org

Figure Brain MRI



MRI of the brain showing regions of restricted diffusion in right centrum semiovale and splenium of the corpus callosum (arrows). Similar changes may be observed in cases of hyponatremia or encephalitis, or after prolonged seizures. ADC = apparent diffusion coefficient; DWI = diffusion-weighted imaging.

A 14-year-old boy with leukemia reported 20 minutes of numbness and weakness of the left face and hand. He had received an intrathecal methotrexate infusion 1 month earlier. Examination showed left-sided ataxia, which resolved within minutes.

Brain MRI (figure) performed 90 minutes after symptom onset showed restricted diffusion at the splenium of the corpus callosum and right frontal white matter. Magnetic resonance angiography and perfusion imaging results were normal.

The diagnosis was delayed reversible methotrexate leukoencephalopathy, a syndrome of transient neurologic dysfunction following intrathecal or IV chemotherapy.¹ It probably represents a metabolic insult to the white matter. The restricted diffusion typically resolves in 1–4 weeks.

REFERENCE

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From the Departments of Neurology (G.M., D.H.), Pediatrics (C.A.D.), and Radiology (H.R.), University of Wisconsin Hospital and Clinics, Madison.

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