Teaching *NeuroImages*: Brain imaging findings in acute methanol toxicity

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Figure Imaging findings in acute methanol toxicity

Noncontrast CT (A) shows bilateral basal ganglia hemorrhage and decreased attenuation throughout hemispheric white matter. Diffusion-weighted MRI (B) with apparent diffusion coefficient map (C) demonstrates diffusion restriction within basal ganglia and subcortical white matter. T2 fluid-attenuated inversion recovery MRI (D) shows high signal in basal ganglia and subcortical white matter.

A 35-year-old man presented to the hospital in status epilepticus. CT of the head revealed bilateral basal ganglia hemorrhage (figure, A). Serum osmolality was elevated at 372 mmol/kg and methanol level was 34 mmol/L. He was admitted to the intensive care unit. MRI of the brain (figure, B–D) demonstrated extensive white matter diffusion restriction and basal ganglia hemorrhage. Care was withdrawn on postadmission day 6, with the patient dying shortly thereafter. Methanol toxicity classically presents with putaminal necrosis, presumed secondary to cellular hypoxia from formate-induced cytochrome oxidase inhibition.¹ Rarely, white matter necrosis is evident on MRI.¹

AUTHOR CONTRIBUTIONS

Dustin Anderson performed the patient's clinical assessment, drafted the manuscript, and created the figure. Grayson Beecher

assisted in the patient's clinical assessment and drafted the manuscript and figure legend. Derek Emery reported the imaging findings, provided the figure images, and edited the manuscript. Rachel G. Khadaroo provided patient care in the intensive care unit and performed critical revision of the manuscript for intellectual content.

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DISCLOSURE

The authors report no disclosures relevant to the manuscript. Go to Neurology.org for full disclosures.

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