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0196-0644/$-see front matter

doi:10.1016/j.annemergmed.2009.09.017

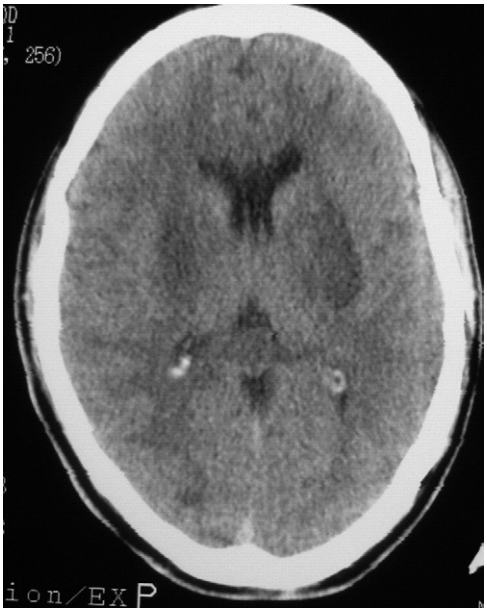

Figure. Brain computed tomographic scan without contrast showing bilateral putamen necrosis. Used with permission of Mohsen Esfandbod, MD, Department of Emergency Medicine, Imam Khomeini Hospital, Tehran University of Medical Science, Tehran, Iran.

[Ann Emerg Med. 2010;56:438.]

A 30-year-old man was brought to the emergency department because of progressive loss of consciousness. He had been well until 3 days earlier, when he developed visual disturbance described as looking into a snowfield. In his physical examination, Kussmaul breathing pattern, hypothermia, and bilateral pupil dilation unreactive to light were prominent. In his laboratory evaluation, severe high-anion-gap metabolic acidosis (pH 6.87, P_{CO_2} 20.5 mm Hg, HCO_3 3.7 mmol/L, chloride 100 mEq/L) was reported. In his computed tomography scan, bilateral putamen necrosis was evident (Figure).

For the diagnosis and teaching points, see page 445.
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doi:10.1016/j.annemergmed.2010.08.017

Funding and support: By *Annals* policy, all authors are required to disclose any and all commercial, financial, and other relationships in any way related to the subject of this article that might create any potential conflict of interest. The authors have stated that no such relationships exist. See the Manuscript Submission Agreement in this issue for examples of specific conflicts covered by this statement.

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(continued from p. 438)

DIAGNOSIS:

Methanol intoxication. A more detailed history revealed that he had drunk methanol 3 days ago. Methanol ingestion causes a severe high-anion-gap metabolic acidosis. The minimum lethal dose of methanol is 50 to 100 mL, and 4 mL pure methanol causes blindness. The symptoms of methanol poisoning may not appear for up to 18 hours after ingestion. Bilateral symmetric putamen hypodensities, hemorrhages, or cystic lesions are characteristic. Ethanol, fomepizole, folic acid, and hemodialysis are the main treatment options. Asymptomatic patients with a history of any possible methanol ingestion should be admitted and treatment initiated, even if no acidosis is evident. Indications of dialysis are signs of central nervous system or visual dysfunction, peak methanol level greater than 20 mg/dL, pH less than 7/15, and a history of ingesting greater than 30 mL methanol.