Figure. Fluid-attenuated inversion recovery brain MR images show hyperintensity lesions around the fourth ventricle (A), in the mamillary bodies (B), and around the third ventricle and hypothalamus (C).

Wernicke's encephalopathy after glucose infusion

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A 61-year-old man was admitted with slight confusion. He had been a heavy drinker for several years and had general fatigue. A doctor who examined him first considered the possibility of electrolyte disturbance and gave him an infusion including electrolytes and glucose. After starting IV injection, the patient fell into a deep coma. On neurologic examinations, he had diminished doll's

head eye phenomenon and weakened deep tendon reflexes. Laboratory findings showed severe vitamin B1 deficiency, an elevation of γ -glutamyl transpeptidase, and macrocytic anemia. Fluid-attenuated inversion recovery sequence of cerebral MRI carried out 3 days after admission showed hyperintense lesions typical for Wernicke encephalopathy^{1,2} (figure). Although thiamine was started 5 days after admission, the patient died of pneumonia without recovery after 3 months.

We should not forget that the activation of glycolysis consumes vitamin B1 and that an infusion including glucose to patients with vitamin B1 deficiency is fatal.

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