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 encephalopathy1,2 (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.

Wernicke's encephalopathy after glucose infusion
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