Teaching NeuroImages:

The full-blown neuroimaging of Wernicke encephalopathy

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Figure Brain MRI

Axial T2-fluid-attenuated inversion recovery images show abnormal high signal distributed symmetrically in the floor of fourth ventricle (arrows on A), periaqueductal gray matter and colliculi (arrows on B), hypothalamus and mammillary bodies (arrowheads on B), splenium (arrow on C), mesial thalami (arrowheads on C), and perirolandic cortex (arrowheads on D).

A 55-year-old man presented in a global confusional state and after 24 hours fell into deep coma. Laboratory findings, including alcohol level, were normal. MRI showed abnormalities typical of Wernicke encephalopathy (figure).^{1,2} Thiamine was administered immediately, but the patient died 2 weeks later. The diagnosis was confirmed by measurement of blood thiamine level (19.3 ng/mL; normal range 27.2–42.2), obtained after initiation of treatment. Nonalcoholic Wernicke encephalopathy is probably underestimated; typical radiologic manifestations allow diagnosis.²

Cortical involvement is indicative of irreversible lesions with poor prognosis.² Thiamine should be administered to reduce risk of clinical worsening.

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