

## Delayed and Extra-pontine Myelinolysis after Osmotic Dysregulation

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A 58-year-old Chinese man was admitted because of increasing lethargy and confusion over 4 days. He had been taking hydrochlorothiazide for hypertension and regularly consumed ethanol in moderation. Examination showed a conscious, well-hydrated man with slow verbal responses and unstable gait. Laboratory tests suggested hyponatremia due to the syndrome of inappropriate secretion of antidiuretic hormone (serum sodium 104 mmol/L, urine sodium 25 mmol/L, serum osmolality 213 mosm/kg and urine osmolality 439 mosm/kg). Thyroid function tests, computed tomographic (CT) scan of the brain, and chest X-ray were unremarkable. With intravenous thiamine and fluid

restriction, he became increasingly alert and responsive, with a gradual rise in serum sodium level (130 mmol/L after 4 days).

Magnetic resonance imaging (MRI) of brain (Day 7, Figs. 1A and 1B), performed due to increasing limb ataxia, was normal. The patient continued to worsen with increasing rigidity, bradykinesia and mental obtundation (Day13). A repeat MRI of brain (Day15) showed changes suggesting extra-pontine myelinolysis (Figs. D and E). With supportive measures and rehabilitative physiotherapy, he has shown gradual improvement in his neurological abnormalities, and walks slowly with a stable gait.

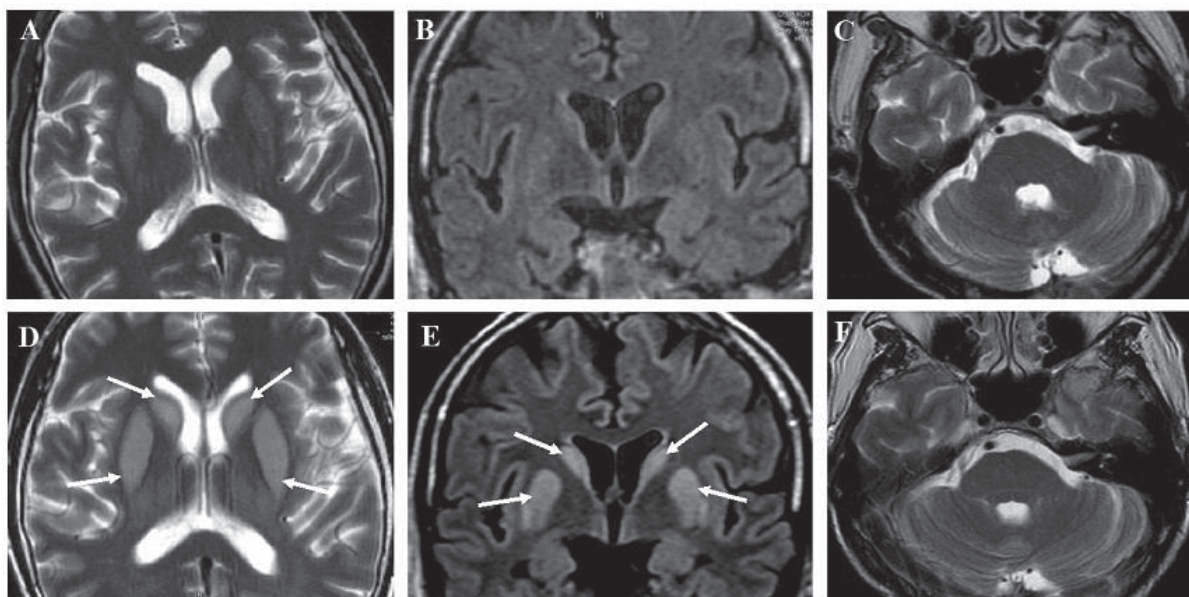


Fig. 1. Initial (performed on Day 7 of hospitalisation) magnetic resonance imaging (MRI) with normal axial T2-weighted (A) and coronal FLAIR sequence (B). MRI repeated on Day 15 shows bilaterally symmetrical hyperintensities in the caudate nuclei and putamen on T2-weighted imaging (D) and FLAIR sequences (E). Note the normal brainstem in both MRI studies (C, F).

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