NEUROIMAGES

Antitubercular therapy-induced psychosis

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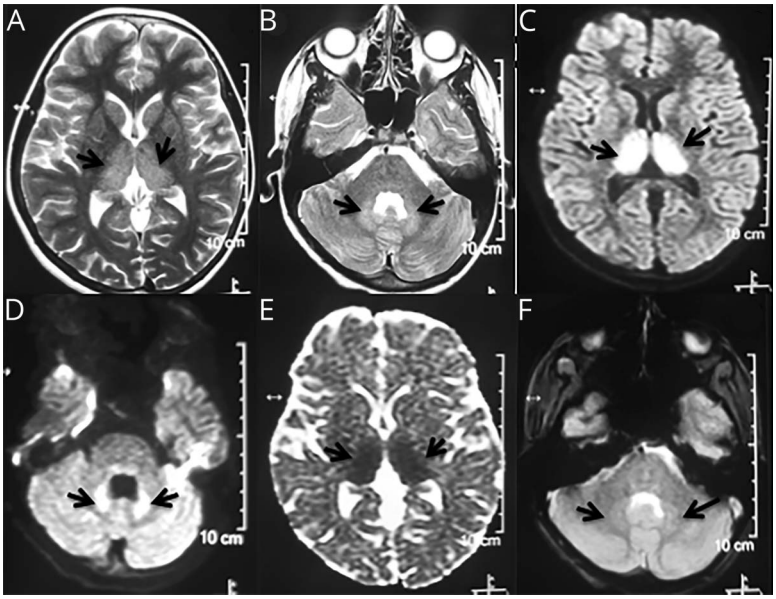
Figure 1 Brain MRI of the index patient at the time of presentation



Brain MRI (T2-weighted [A, B], diffusion-weighted [C, D], and apparent diffusion coefficient images [E, F]) reveals T2-hyperintense thalami and dentate nuclei along with diffusion restriction in bilateral thalami and vasogenic edema in the dentate nuclei (C, F). These radiologic findings are consistent with cycloserine toxicity in the described clinical setting.

A 12-year-old girl with multidrug-resistant pulmonary tuberculosis presented with a 5-day history of headache and psychosis; at the time, she was taking a complex antitubercular therapy (ATT; kanamycin, levofloxacin, ethionamide, pyrazinamide, cycloserine, ethambutol) and pyridoxine. Examination revealed fluctuating sensorium and aggression. The differentials included neurotuberculosis, immune-reconstitution-inflammatory syndrome, and drug-induced psychosis. Neuroimaging revealed features of cycloserine-induced encephalopathy (CIE; figure 1, A–F). Cycloserine was replaced with linezolid and there was a complete resolution of the clinicoradiologic presentation over 4 weeks (figure 2, A–D), confirming the diagnosis.

Cycloserine, an NMDA partial agonist, is widely used in ATT regimens. It can cause reversible encephalopathy.[1] Clinicians should be aware of CIE when considering treatment options.

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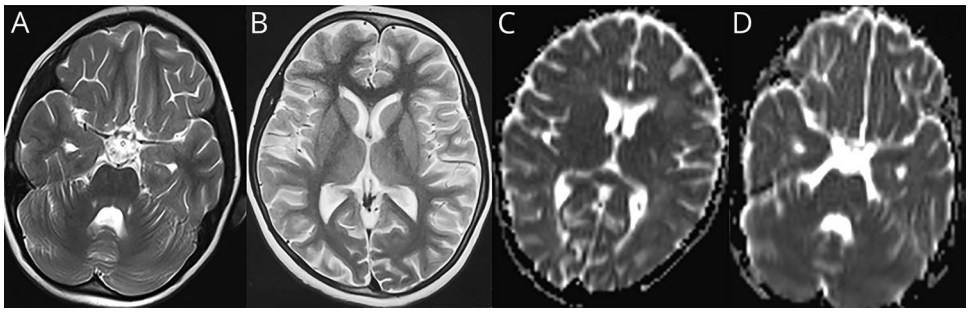
Figure 2 Follow-up brain MRI 4 weeks after stopping cycloserine



Repeat brain MRI 4 weeks later (T2-weighted [A, B] and apparent diffusion coefficient images [C, D]) reveal the complete resolution of thalamic and dentate signal changes and diffusion abnormalities.

Disclosure

The authors report no disclosures relevant to the manuscript. Go to Neurology.org/N for full disclosures.

Appendix Authors

Name	Location	Role	Contribution
Bhanudeep Singanamala, MD	PGIMER, Chandigarh, India	Author	Patient management, literature review, initial draft manuscript preparation
Lokesh Saini, MD, DM	PGIMER, Chandigarh, India	Author	Concept and design of the study, analysis of the radiologic data, critical review of the manuscript, final approval of the version to be published
Priyanka Madaan, MD, DM	PGIMER, Chandigarh, India	Author	Patient management, literature review, initial draft manuscript preparation
Paramjeet Singh, MD	PGIMER, Chandigarh, India	Author	Analysis of the radiologic data, critical review of manuscript, final approval of the version to be published
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Reference

1. Kim S, Kang M, Cho JH, Choi S. Reversible magnetic resonance imaging findings in cycloserine-induced encephalopathy: a case report. Neurol Asia 2014;19:417–419.

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