Anti-NMDAR encephalitis
Demonstration of neuroinflammation and the effect of immunotherapy

A 35-year-old man presented with perceptual difficulties and delusions. At presentation, there were orofacial dyskinesias, catatonia, and autonomic instability. Anti–NMDA receptor (NMDAR) antibodies were detected in CSF.1 Cerebral MRI was unremarkable. At the start of immunotherapy (methylprednisolone and plasmapheresis), [123I]CLINDE-SPECT demonstrated a strongly increased binding to TSPO in cortical and subcortical brain regions similar to the distribution of NMDAR in the brain and different from FDG-PET changes reported in the literature (figure, A). TSPO is present on activated microglia and used as a measure of regional neuroinflammation.2 After 7 weeks of immunotherapy (figure, B), TSPO binding was close to normal values (figure, C) and the patient was back to work part time as a computer scientist despite mild cognitive problems.

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Study funding: Supported by the European Union’s Seventh Framework Programme (FP7/2007-2013) under grant agreement HEALTH-F2-2011-278850 (INMiND) and the Danish Research Agency.

Disclosure: The authors report no disclosures relevant to the manuscript. Go to Neurology.org for full disclosures.

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Anti-NMDAR encephalitis: Demonstration of neuroinflammation and the effect of immunotherapy
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Neurology 2015;84;859
DOI 10.1212/WNL.0000000000001278

This information is current as of February 23, 2015

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