# Sociocultural Influences in Autoimmune Encephalitis Without Neurologic Symptoms: Identifying Barriers to Disease Detection

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Anti–*N*-methyl-D-aspartate (NMDA) receptor encephalitis is characterized by a clinical presentation of new-onset behavioral changes, cognitive dysfunction, neurologic abnormalities, and autonomic dysregulation. Autoimmune encephalitis affects females to males in a 4:1 ratio. The median age at onset is age 21 years, and there is greater prevalence among Blacks than Whites. The diagnosis is made through the detection of anti-NMDA receptor antibodies in the cerebrospinal fluid (CSF), and treatment includes intravenous immunoglobulin (IVIG), glucocorticoids, and plasmapheresis.[1]

## Case Report

A 31-year-old Black man with a history of asthma, psoriasis, and obesity presented to the emergency department with a 1-month onset of behavioral changes of acute physical aggression with family members, insomnia, paranoia, and impulsivity. The patient had previously attempted to climb a fence in the middle of the night and got into a stranger's car. He was evaluated at 3 different psychiatric facilities within 1 month. At each facility, he was held overnight and then discharged. The patient displayed no neurologic abnormalities, and he was never involuntary committed. He received a diagnosis of bipolar I disorder and was started on sodium valproate and risperidone. The patient's symptoms continued to worsen despite taking medications, and his parents drove out of state to move their son in with them for further care. In route to seeking care for the fourth time, he became paranoid and caused his family to crash their vehicle (no resulting injuries).

In the emergency department, he received large quantities of antipsychotics and benzodiazepines for severe agitation, resulting in respiratory failure and intensive care unit (ICU) admission. The psychiatry department was consulted the day of admission and initiated IV sodium valproate and IV haloperidol for severe agitation, while the ICU team managed IV dexmedetomidine (0.7 mcg/kg/h). Given the lack of personal and family psychiatric history, sudden onset, treatment-refractory agitation, low-grade fever (37.8°C), and autonomic instability of persistent hypertension and tachycardia, the psychiatry team recommended neurologic workup. The neurologic examination revealed no focal neurologic deficits, movement disorders, seizures, changes in speech, posturing, or abnormal reflexes.

Neurology workup included negative head computed tomography and brain magnetic resonance imaging (MRI) scans, and EEG showed no epileptiform discharges. CSF showed mild pleocytosis with lymphocytic predominance and was negative for infectious etiology. No empiric treatment was given. CSF collected on day 5 of admission was positive 15 days later for NMDA receptor antibody. Treatment was then initiated with IV methylprednisolone, IVIG, and oral rituximab. His vital signs normalized, the agitation resolved, and he was discharged to outpatient neurology and tapered off all psychiatric medications.

## Discussion

This complex case highlights barriers to identifying autoimmune encephalitis when no neurologic symptoms are present, which are normally central to disease detection. The incidence of seizures during the acute phase is 57%–82%.[1] Facial and limb dyskinesias occur in 75% of cases.[2] Decreased level of consciousness is present in > 80% of cases, and speech disorders are prevalent in > 70%.[1] The lack of neurologic changes resulted in no recommendation of medical workup during psychiatric encounters prior to hospitalization. The negative MRI and EEG further lowered suspicion for autoimmune encephalitis, and, therefore, the patient was not treated empirically. Empiric treatment with immunotherapy is recommended when suspicion is high for autoimmune encephalitis even before confirmation with antibodies.[3]

There is also evidence of disparities in the misdiagnosis of psychiatric disorders in Black versus non-Black patients. The diagnosis of schizophrenia is 5 times more likely in Black patients compared to White patients hospitalized with symptoms of psychosis.[4] Black patients with bipolar disorder have higher rates of misdiagnosis and are prescribed antipsychotics at a higher rate than White patients.[5] Unintended racial bias for psychiatric illness over a neurologic disease may have delayed detection and

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empiric treatment. This case demonstrates the importance of differential diagnosis and medical workup of new-onset psychiatric symptoms.

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