Anti-NMDA Receptor Encephalitis Suspected as Cause of Drug-Induced Psychosis

To the Editor: Anti-NMDA receptor (NMDAR) encephalitis is a severe and considerably underdiagnosed form of limbic encephalopathy, with a characteristic clinical picture including psychiatric symptoms, decreased level of consciousness, hypoventilation, epileptic seizures, autonomic dysfunction, and dyskinesias.[1] the condition is associated with autoantibodies directed against the nr1 subunit of the NMDA receptor. It was initially described in young women with ovarian teratomas, but is also common in men and children, and in the absence of neoplasms.[1,2]

Case Report

A 21-year-old woman with no relevant medical history presented with psychomotor excitement, hyperactivity, and insomnia that had begun in the previous 2 days. In the emergency room, she described feeling controlled by other people and hearing voices, along with "chill-out" music. She had no other complaint, except for "common cold"-like symptoms and mild fever in the week before. Physical and neurological examinations were normal. Her family history included an uncle with schizophrenia. Although she denied consumption of drugs or alcohol, she had been at a party the night before, and that possibility was not excluded. She was admitted to a psychiatry department, suspected of a drug-induced acute psychosis. An analytic study showed no abnormalities. Urinalysis was negative for drugs. Brain CT was normal. Risperidone 4 mg/daily and lorazepam 7.5 mg/daily were started. Several days after admission, she had a tonic-clonic seizure and became obtunded, staring into space, and could not follow simple commands. Another analytic study showed moderate elevation of liver enzymes and PCR, without other abnormalities. Brain MRI was normal. EEG had slow beta activity of probable iatrogenic cause. CSF analysis revealed 10 WBC/μl (majority lymphocytes). Extensive testing of serum and CSF for viral, bacterial, and fungal infection or toxic-metabolic causes was negative. At this stage, the patient developed fever, catatonia, and two focal seizures. She fluctuated from confusion to extreme agitation. EEG showed status epilepticus. Anti-NMDAR encephalitis was suspected, and serum and CSF were tested for the autoantibodies, testing positive. Abdominal and pelvic ultrasound, CT of the chest, abdomen, and pelvis, and whole-body PET scan were normal. She was diagnosed with anti-NMDAR encephalitis and treated with intravenous immunoglobulins and corticosteroids; 52 days after admission, she was discharged with only mild psychomotor retardation and memory deficits, but without any psychotic symptoms.

Discussion

Most patients with anti-NMDAR encephalitis have prodromal flu-like illness, followed by acute severe psychiatric symptoms, including personality change, paranoia, and delusional thought processes. Agitation and confusion alternate with periods of staring, dystonia, and catatonic posturing. These symptoms are often wrongly attributed to schizophrenia, drug-induced psychosis, neuroleptic malignant syndrome, or lethal catatonia, and the patients are frequently initially referred to a psychiatrist.[1,3] Despite severity, early diagnosis and treatment with surgery if a tumor is found, immunologic treatments improve outcome. Since the presenting features are not disease-specific, a high suspicion for this condition in young adults is mandatory for its recognition. MRI and CSF examination are often—but not always—helpful indicators of an inflammatory process. Identification of antineural antibody helps in its diagnosis.[3]

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