Electroconvulsive Therapy Is an Effective Treatment Modality in Children With Lupus Cerebritis With Persistent Catatonia

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Electroconvulsive therapy (ECT) is not commonly utilized in pediatric patients with systemic medical illnesses. In this report, we present a pediatric patient with neuropsychiatric systemic lupus erythematosus (NPSLE) presenting with psychosis and persistent catatonia unresponsive to immunosuppressive agents and a benzodiazepine, who was successfully treated with ECT.

Case Report

A 13-year-old girl with a history of lupus nephritis presented to the emergency department in May 2021 with increasingly bizarre behavior, hallucinations, paranoia, and symptoms of catatonia, including rigidity, ambitendency, mutism, withdrawal, and several days of limited oral intake. SLE laboratories showed a slightly low C3 level, while the C4 level, erythrocyte sedimentation rate, and anti–double-stranded DNA level were within normal limits. The long-term electroencephalogram was consistent with mild encephalopathy. Brain magnetic resonance imaging was normal, and cerebrospinal fluid studies were unremarkable, including negative varicella zoster virus, herpes simplex virus, and cryptococcal antigen. The abdomen and pelvis computed tomography scans were negative for teratomas. The paraneoplastic panel was negative. The urine drug test was negative. Echocardiography was within normal limits. She was diagnosed with NPSLE and treated with intravenous methylprednisolone, cyclophosphamide, and lorazepam 2.5 mg 4 times/day, resulting in resolution of psychosis and improved oral intake but only mild improvement in catatonia.

Three months after discharge, the patient still had symptoms of catatonia, with a Bush-Francis Catatonia Rating Scale[1] (BFCRS) score of 7, despite high-dose daily oral prednisone, weekly methylprednisolone infusion, monthly cyclophosphamide infusion, and lorazepam 10 mg/d. To address persistent catatonia, inpatient psychiatric hospitalization was recommended. Lorazepam was slowly titrated up to 17 mg/d. With no improvement in her catatonia, the decision was made to pursue ECT. She received 12 ECT sessions over 30 days, with the following weekly BFCRS scores: 7, 6, 3, and 1. She was discharged home with a recommendation for twice-weekly ECT.

Discussion

In 2018, Boeke et al[2] reported 35 cases of catatonic lupus described in the existing literature, 11 of which occurred in children under age 18 years. The main treatment strategy in NPSLE is to treat the underlying inflammatory disease with immunosuppressive therapy.[3] As in our patient, however, catatonia-specific interventions may be warranted, such as high-dose benzodiazepines and ECT.[4]

This case illustrates that NPSLE can present with symptoms of psychosis and catatonia with no serologic or imaging findings. Maintaining a high degree of suspicion within a broad differential and promptly initiating management from the perspectives of multiple disciplines (rheumatology, neurology, psychiatry) are important. ECT is an effective treatment modality to improve catatonia in patients with lupus cerebritis. Further studies are needed to investigate catatonic lupus and its treatment in pediatric patients.

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