A 17-Year-Old with Aggressive Behavior after Beginning Therapy for Epileptic Seizures

Pravesh Sharma, MD; Sarah M. Wakefield, MD; and Johnathan M. Heller, MBA

We present the case of a 17-year-old with a history of attention-deficit/hyperactivity disorder, migraine headaches, and developmental delays associated with neonatal frontal lobe damage. He first presented to us as an outpatient follow-up for inpatient psychiatric consultation due to combativeness during apparent seizure activity and to rule out psychogenic seizures.

This patient progressively developed aggressive behavior after beginning therapy with levetiracetam (LEV) for absence seizures. Upon diagnosis of epileptic seizures, the patient was given valproic acid, which led to resolution of seizure activity but caused liver enzyme elevation. He was subsequently prescribed LEV at a dose of 1,000 mg twice daily and topiramate at a dose of 200 mg twice daily.

After 6 months of taking LEV and topiramate, the patient was again hospitalized for generalized seizures associated with combativeness. He was evaluated by neurology services but the results of diagnostic testing by the neurology team were within normal limits. The psychiatry team was consulted and gave a diagnosis of psychogenic epileptic seizures. The patient was then treated with risperidone at a dose of 1 mg twice daily and referred for psychotherapy, but this produced no improvement in either seizure frequency or intensity. The patient’s neurologist reduced the risperidone dose and initiated a trial of lacosamide, and during this time the patient continued to take LEV.

Subsequently, episodic somnambulation-like behavior developed, resulting in police detention and inpatient psychiatric hospitalization at a different facility. At that facility, physicians discontinued the lacosamide and risperidone, and instead implemented aripiprazole therapy. The patient continued to have episodes of pseudo-somnambulation, behavioral changes, and seizure-like activity. The aripiprazole was subsequently stopped (on the advice of an on-call doctor in our practice) due to the side effect of akathisia in addition to no perceived therapeutic benefit.

A few weeks after the patient stopped taking aripiprazole, he took the family car without permission during the night, drove for more than 20 miles, and then crashed into a gas station. The patient was unaware where he was at the time of the crash and was unable to explain what motivated him to take the car.

Neurology consultation for a 24-hour sleep study and electroencephalography demonstrated no epileptiform activity. Escalation of dangerous behaviors without evidence of intent prompted the outpatient child psychiatry team to reconsider with neurology and recommend a taper of LEV. Working on those recommendations, the neurologist started another antiepileptic agent and agreed to an LEV taper.
Cessation of LEV led to rapid reversal of the behavioral changes, and the patient has been without seizures or behavioral problems for several months after the behavioral escalations that prompted this intervention.

**DISCUSSION**

Psychiatric changes in patients who are prescribed the antiepileptic drug LEV occur in approximately 3.5% to 3.7% of adults and 7.8% of pediatric patients.\(^1\) Psychosis including extreme aggression is rare, found in less than 0.7% of those prescribed LEV.\(^1,2\) This case shows the challenges associated with identifying rare behavioral changes in patients receiving multiple psychoactive medications, and the diagnostic complexity in psychogenic pathology. It also reinforces clinical appreciation of the possibility of medication-induced psychosis and behavior changes related to agents regularly prescribed by physicians of diverse specialties.

This case also encourages clinicians to consider more inclusive differential diagnoses in the care of psychiatric patients. It also highlights the need to develop comprehensive, long-term views of patient conduct and therapeutic interventions to better identify trends and significant data points associated with behavioral outcomes.

**REFERENCES**