Oral Valproate Sodium as an alternative to Benzodiazepine in the treatment of Catatonia - A Case report

Jacob C. Maier a, Daniel Rapport b, Alex McCormick c and Chandani Lewis b

Corresponding author(s): Chandani.lewis@utoledo.edu

Alternative therapies are necessary to treat catatonia in patients with comorbidities that are not amenable to therapy with benzodiazepines or ECT. This is a patient with schizophrenia with catatonic features and a history of polysubstance abuse. Consequently, he was not a candidate for treatment with benzodiazepines, so an alternative needed to be found. GABAergic medications have been used previously as alternatives to benzodiazepines and ECT. In this case we chose sodium valproate, due to its cross-reaction with GABAergic systems. There are five reported cases using sodium valproate. Three of which were treated with intravenous valproate, while the remaining two do not specify the route of administration. We present a case where oral sodium valproate was used successfully for both acute and long-term catatonic treatment. To our knowledge, no other report has looked at both acute and long-term treatment with sodium valproate. Oral sodium valproate can be considered for patients with substance use disorders COPD, sleep apnea or myasthenia gravis in which benzodiazepines are contraindicated and where ECT is not an option for treatment.
Objective for Case Reporting

To discuss oral sodium valproate as an alternative to benzodiazepine or ECT therapy in the treatment of catatonia in schizophrenia and to explore scenarios in which benzodiazepines and ECT therapy are contraindicated.

Case

The patient was a 30-year-old African American male, with a history of schizophrenia with catatonic features. He was admitted to the state hospital for违出aining his conditional release after relapsing on alcohol, marijuana, and crack cocaine.

The patient had been previously treated for catatonia with oral lorazepam, but this had to be discontinued in order for him to be admitted to a rehabilitation center for chemical dependence. Previously, his catatonic symptoms consisted of stupor, negativism, and rigidity. During his intake at the state hospital, the patient had multiple staring episodes lasting 5-10 minutes throughout his interviews and was often slow to respond to questions. His medications included halol decanoate 200 mg Q4/week, oral quetiapine 200 mg daily, oral propranolol 20 mg twice daily, oral benzotropine 1 mg twice daily for the management of antipsychotic induced extra pyramidal side effects, especially akathisia. There was no evidence of acute dystonic reactions, signs of Parkinson’s, neuroleptic malignant syndrome or seizures and his laboratories were within normal limits. Since ECT was not available at this state hospital and he could not be restarted on lorazepam, we sought an alternative therapy. A literature search yielded a case of catatonia that was successfully treated with sodium valproate, so we decided to treat him with oral sodium valproate.

MS was started on a 1000mg dose of sodium valproate (500mg twice daily) which provided partial improvement. Initially, his staring episodes ceased, but after a period of 8 days he reported an episode where his eyes focused on the door handle for about 3 hours. It is unlikely that these episodes were seizures as there was no history of seizures in this patient and the patient did not exhibit a post ictal state. EEG was not done. This prompted us to increase the oral dose to 1500 mg daily, which resulted in resolution of his symptoms within 3 days. His blood levels of sodium valproate ranged from 74-79 mcg/ml and his catatonic symptoms were completely resolved at discharge.

Discussion

Catatonia is a movement disorder typically related to schizophrenia or other psychiatric symptoms. In order to make the diagnosis, patients must display 3 or 12 symptoms listed in the DSM-5. These features are stupor, mutism, waxy flexibility, negativism, posturing, agitation, echopraxia and echolalia (5). Our patient met DSM-5 criteria for catatonia by demonstrating stupor, mutism, posturing, negativism, and agitation.

Treating catatonia is essential. Complications associated with stuporous catatonia include dehydration, starvation, urinary tract infections and pneumonia which can have poor prognoses if not addressed. Similarly, there are severe complications associated with excited catatonia which include hyperthermia and rhabdomyolysis. Higher doses of neuroleptics are neither safe nor effective and may lead to worse complications like neuroleptic malignant syndrome (NMS). NMS is the most severe sequela of catatonia and can be deadly (6). While rates of NMS have declined with the development of modern antipsychotic therapies, lethal catatonia remains a potentially grave complication if catatonic features are not appro-
tions. While uncommon, hypothyroidism, thrombocytopenia, liver failure, pancreatitis and folic acid depletion are among the potential adverse effects. One report notes that sodium valproate can induce hyper-ammonemic encephalopathy which can present like catatonic features (16).

**Conclusion**

In situations where benzodiazepines and ECT are either unavailable, contraindicated, or ineffective, we suggest that oral sodium valproate may be an adequate alternative. Future studies should focus on the mechanism of valproic acid as well as long term outcomes and side effects in catatonic patients.

**Conflict of interest**

Authors declare no conflict of interest.

**Authors’ contributions**

JCM and CL wrote the manuscript, DR and CL revised the manuscript, AM provided patient information. All authors have read and approved the final document.