Memantine's Role in Refractory Catatonia: A Case Report and Literature Review

Jack Mariani[1*], Mirlinda Elmazi[1], Dionis Kononov[1], Thomas Roach, MD[2], Jonathan Maciejewski[1], Sirtaj Singh[1], Garrett Spradley[1]

[1]College of Medicine and Life Sciences, The University of Toledo, Toledo, OH 43614
[2]Department of Psychiatry, The University of Toledo, Toledo, OH 43614

*Corresponding author: jack.mariani@rockets.utoledo.edu

Keywords: Memantine, Catatonia, Psychiatry, Psychiatric Disorders

Published: 22 November 2024

Background: Catatonia is a syndrome of abnormal movements and behavior that often presents in the context of mood, psychiatric, or neurologic disorders (3). The most common clinical syndromes to present with catatonic symptoms are bipolar disorders, psychotic disorders (schizophrenia, schizoaffective disorder), major depression, and delirium (1). Catatonic symptoms can present with varying presentations, but as a common descriptor, are those in which patients are unable to move normally despite full physical capacity (1). The prevalence of catatonia has primarily been reported in the acute inpatient psychiatric setting, with estimates ranging from 5-20% of hospitalized patients (1). The real prevalence of the condition is hard to assess, given the broad presentation of catatonic symptoms and variations in definitions of the clinical characteristics. First line therapy for catatonia is benzodiazepines, namely lorazepam. Electroconvulsive therapy is indicated for cases of catatonia refractory to benzodiazepines (2). The use of the NMDA Glutamate antagonist memantine as an adjunctive therapy for patients that fail the use of both benzodiazepines and ECT has been described in case reports in the past and may provide benefit (2).

Case Presentation: Our patient is an 81-year-old female admitted to an acute inpatient psychiatric facility on 9/12/23 for catatonia. Her past psychiatric history includes major depressive disorder with psychotic features, postpartum psychosis, catatonia status post ECT, and generalized anxiety disorder with panic attacks. Her initial symptoms were confusion, disorientation, intermittent hallucinations, depressed mood, and catatonic symptoms. Her catatonic symptoms included non-responsiveness, staring spells, and loss of appetite. At the time of her admission, the patient had numerous suicide risk factors including age, inability to care for herself, and hopelessness. Home psychiatric medications included memantine 5mg daily, Ativan 0.5mg three times per day, and Mirtazapine 15mg nightly. Her home Memantine dose was maintained at 5mg daily for the first 2 days of her hospitalization and was changed to 5mg twice daily for the next 26 days. The patient received two sessions of ECT before the nighttime memantine dose was further increased to 10mg. While receiving the 5mg and 10mg doses of memantine, she underwent six additional ECT sessions throughout her hospitalization, which she tolerated well. She tolerated her medication changes well and no side effects were reported. At the end of her hospitalization, the patient reported good appetite, orientation to person, place, and time, denied suicidal ideation, and had no further catatonic symptoms. She was discharged on 10/31/23.

Conclusion: Based on a literature review, there are examples of case reports where memantine provides benefit for catatonia in depression and schizophrenia patients that fail traditional therapy (2). However, guidelines and treatment algorithms still do not include memantine nor make any recommendation for dosing in these patients. The scarcity of recommendations in the treatment of refractory catatonia provides an opportunity for further research.

References

1. UpToDate. (n.d.-c). UpToDate. https://www.uptodate.com/contents/catatonia-in-adults-epidemiology-clinical-features-assessment-and-diagnosis/print https://www.uptodate.com/contents/catatonia-in-adults-epidemiology-clinical-features-assessment-and-diagnosis?topicRef=15869&source=see_link#H6713689

2. UpToDate. (n.d.-d). UpToDate. https://www.uptodate.com/contents/catatonia-treatment-and-prognosis https://www.uptodate.com/contents/catatonia-treatment-and-prognosis?topicRef=14683&source=related_link

3. Burrow, J. P. (2023, May 8). *Catatonia*. StatPearls - NCBI Bookshelf. https://www.ncbi.nlm.nih.gov/books/NBK430842/

