

Psychopharmacology for the Clinician

The information in this column is not intended as a definitive treatment strategy but as a suggested approach for clinicians treating patients with similar histories. Individual cases may vary and should be evaluated carefully before treatment is provided.

Options for the treatment of febrile catatonia

A 24-year-old woman presented with an auditory hallucination of her deceased father speaking to her and delusions of being persecuted by the Central Intelligence Agency. The patient was extremely anxious, confused and agitated. Initial treatment in hospital with an atypical neuroleptic (olanzapine) did not significantly improve her acute psychotic state. On the third day, she became mute, developed stupor and posturing and refused to eat. This state worsened over the next few days, leading to a full-blown catatonic state with typical features, including mutism, akinesia, posturing, catalepsy and psychic head pillow. The patient had to be fed by a tube. On the seventh day, she developed fever with a continuous temperature of up to 40°C. Her electrolytes and creatine kinase levels were within the normal ranges.

Because of the seriousness of her condition, the case was treated as a medical emergency. She received a thorough examination to rule out any medical cause of her condition and was monitored closely to assess the need for symptomatic treatment. Although her signs and symptoms suggested a catatonic syndrome rather than a neuroleptic malignant syndrome, she was taken off all neuroleptics and given lorazepam (3 mg given 6 times daily) intravenously over the next 4 days. This treatment showed some initial effects and she appeared less anxious; however, the catatonic features and the fever persisted with no signs of remission. This led us to change the treatment to amantadine,

which has been used successfully in the past to treat catatonic syndrome.¹ We gave 4 infusions of amantadine, which led to a gradual improvement after 2 days, with the patient starting to speak, move and eat freely. Her temperature gradually decreased, coming back to normal after 3 additional days. We did not give any neuroleptic treatment at this stage so as not to worsen the catatonia.

After 2 weeks, it became clear that the patient was again having delusions and auditory hallucinations. Because the catatonic features were in complete remission, we began neuroleptic treatment with clozapine. This successfully treated the psychotic episode, and the patient was discharged without symptoms after an additional 4 weeks.

The patient remained free of symptoms for the next 3 years and successfully completed her bachelor degree at college. After her mother died, the patient became acutely psychotic with auditory hallucinations and delusions, which developed into full-blown febrile catatonia. We followed the same pharmacological procedure as the first time. However, therapy with amantadine was not successful, so we initiated electroconvulsive treatment. After 12 sessions, the patient began to improve. An additional 6 sessions led to complete remission of the catatonic and psychotic features.

This patient's case shows the difficulties in treating catatonia in general and febrile catatonia in particular. The first difficulty is in making the diagnosis of catatonia. Catatonia is a psychomotor syndrome that includes affective, motor and behavioural anomalies.² All 3 symptom types should be present for a diagnosis of catatonia, which can occur

in various disorders, including schizophrenia, depression, mania and many other neurologic and medical conditions.³ Thus, catatonia is not to be equated with a diagnosis of schizophrenia, although this was the case in our patient.

Catatonia may be regarded as an unspecific syndrome that can occur in situations of stress. It may manifest mentally as hallucinations and delusions in schizophrenia or in posttraumatic stress disorders or other conditions. It is important to exclude a neuroleptic malignant syndrome, in which creatine kinase is often elevated. The motor features are more extrapyramidal- and Parkinson-like in neuroleptic malignant syndrome than in catatonia with typical posturing and catalepsy.³

Catatonia can be treated with lorazepam, which is beneficial in 60%–80% of cases, as observed in an open trial.⁴ The remaining patients can be given an N-methyl-d-aspartate antagonist such as ketamine or amantadine.^{1,5} If fever develops, electroconvulsive treatment should be considered.

Georg Northoff, MD, PhD
Brain Imaging and Neuroethics
Royal Ottawa Healthcare Group
University of Ottawa Institute of Mental
Health Research
Ottawa, Ont.

Competing interests: None declared.

DOI 10.1503/jpn.100087

References

1. Northoff G, Eckert J, Fritze J. Glutamate dysfunction in catatonia? Successful treatment of three acute akinetic catatonic patients with the NMDA antagonist amantadine. *J Neurol Neurosurg*

Psychopharmacology for the Clinician columns are usually based on a case report that illustrates a point of interest in clinical psychopharmacology. They are about 500–650 words long and do not include references. Columns can include a bibliography which will be available only at the journal website and can be accessed through a link at the bottom of the column.

Please submit appropriate columns online at <http://mc.manuscriptcentral.com/jpn>; inquiries may be directed to jpn@ema.ca.

- Psychiatry* 1997;62:404-6.
2. Northoff G. What catatonia can tell us about "top-down modulation": a neuropsychiatric hypothesis [review]. *Behav Brain Sci* 2002a;25:555-77, discussion 578-604.
 3. Northoff G. Catatonia and neuroleptic malignant syndrome: psychopathology and pathophysiology [review]. *J Neural Transm* 2002b;109:1453-67.
 4. Rosebush PI, Hildebrand AM, Furlong BG, et al. Catatonic syndrome in a general psychiatric inpatient population: frequency, clinical presentation, and response to lorazepam. *J Clin Psychiatry* 1990;51:357-62.
 5. Carroll BT, Goforth HW, Thomas C, et al. Review of adjunctive glutamate antagonist therapy in the treatment of catatonic syndromes. [Review]. *J Neuropsychiatry Clin Neurosci* 2007;19:406-12.
 6. Daniels J. Catatonia: clinical aspects and neurobiological correlates. *J Neuropsychiatry Clin Neurosci* 2009;21:371-80.