SHOCKING RESULTS: A Case of Malignant Catatonia

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INTRODUCTION

Catatonia is a disorder that affects both behavior and motor functions. It is divided into multiple categories and can be hard to distinguish from other disorders (Figure 1). The incidence of catatonia in psychiatric inpatient setting is 5-20%, with the most common cause being bipolar depression.

Catatonia may be associated with changes in the cortical-basal ganglia-thalamo-cortical circuit (Figure 2) associated with:
- Low levels of gamma-aminobutyric acid (GABA)
- Low dopamine D2 receptor binding
- High levels of N-methyl-D-asparate receptors

Catatonia includes three or more of the following symptoms:

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Description</th>
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<tr>
<td>Slower</td>
<td>No psychomotor activity; not actively relating to environment</td>
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<tr>
<td>Catalepsy</td>
<td>Passive induction of a posture held against gravity</td>
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<td>Waxy Flexibility</td>
<td>Slight, even resistance to positioning by examiner; often will remain in the new position</td>
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<td>Mutism</td>
<td>No, or very little, verbal response (exclude if known aphasia)</td>
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<td>Negativism</td>
<td>Opposition or no response to instructions or external stimuli</td>
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<td>Posturing</td>
<td>Spontaneous and active maintenance of a posture against gravity</td>
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<td>Mannerism</td>
<td>Odd, circumstantial caricature of normal actions</td>
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<td>Stereotypy</td>
<td>Repetitive, abnormally frequent, non-goal-directed repetitive movements</td>
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<td>Agitation</td>
<td>Does not appear to be influenced by external stimuli</td>
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<tr>
<td>Grimacing</td>
<td>Contortion of facial features</td>
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<tr>
<td>Echolalia</td>
<td>Mimicking another's speech</td>
</tr>
<tr>
<td>Echopraxia</td>
<td>Mimicking another's movements</td>
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Malignant catatonia can include:
- Autonomic instability (fever, hypertension, tachycardia)
- Severe muscle rigidity
- Non-specific lab findings of leukocytosis and elevated creatinine kinase

CASE PRESENTATION AND TREATMENT

An 18 year old African American male with no past psychiatric history, a family history of schizophrenia, good social support, no pertinent past medical or surgical history presented to the Laureate Inpatient Psychiatric Hospital with new onset of mania and psychotic symptoms including bizarre, disorganized behavior and emotional outbursts.

During admission, he was started on antipsychotic medication for control of his symptoms. Eventually, he started to exhibit slow responses and rigidity in left arm along with waxy flexibility in bilateral upper extremities. With the onset of these symptoms, catatonia was added to the differential. There were no autonomic changes. A lorazepam challenge was well tolerated. His antipsychotic medication was discontinued and he was put on scheduled lorazepam at 1mg every six hours for five days with resolution of catatonia symptoms.

Pt had ongoing symptom of racing thoughts, increase energy, poor sleep, psychosis, irritability, and response to internal stimuli. Therefore was re-tried on antipsychotic medication. Afterwards, the pt had continued mood and psychotic symptoms and a return of waxy flexibility, sleeping for nearly 20 hours each day, restricted affect with minimal speech, and a refusal to eat or drink.

Due to concern about medical instability, the patient was transferred to Saint Francis Hospital to provide aid in treatment of dehydration, malnutrition, and access for further medical interventions if necessary. With the start of autonomic instability (blood pressure of 184/106) and elevated creatine kinase at 5,506 (normal range less than 225), Pt was diagnosed with malignant catatonia.

On termination of ECT, he was on valproic acid 1000mg twice a day, olanzapine 10mg at night, temazepam 15mg at night, and lorazepam 1mg two times a day to help maintain control of his symptoms. After discharge, he was admitted to our community assertiveness program and he continued to do well on his medications. Over several months, his outpatient psychiatrist slowly tapered and discontinued the lorazepam and he continues to have good control of his mood and psychotic symptoms with no return of catatonia symptoms.

DISCUSSION

First line treatment is scheduled lorazepam doses, at 6-22 mg per day. Other medications can be used to restore GABA-glutamate imbalance (Figure 5).

In severe cases, ECT should be initiated within the first five days to lower mortality rates. Mortality rates of malignant catatonia is 20%, and response rate is higher with ECT (89%) than lorazepam alone (40%). Recommendation is daily treatments of ECT for at least six treatments to reduce risk of sudden relapse. ECT is terminated after the acute catatonic episode, but maintenance ECT sessions have been successful in treating periodic catatonia. For benzodiazepine treatment, recommendation is to maintain the dose for 6 months then taper slowly to prevent relapse.

Psychiatrist and Internist should work closely to prevent complications:
- Monitor autonomic instability
- Daily CK measurements
- Hydration, nutrition status: For arrhythmia and evaluation for feeding tube
- In/Outs: For urinary retention
- Frequent repositioning: To prevent ulcers, deep vein thrombosis, pulmonary embolism, contractures and aspiration

CONCLUSION

Catatonia should be on a differential diagnosis for patients presenting with mental status changes to ensure timely treatment to decrease morbidity and mortality. Dopamine blocking drugs are contraindicated in malignant catatonia as they can precipitate and worsen catatonia and put a patient at increased risk for developing neuroleptic malignant syndrome.

There is a need for more ECT trained physicians to help decrease mortality of catatonia and to increase access to a valuable treatment. With the underdiagnoses of catatonia, further research is warranted to aid in diagnosis and treatment of this disorder.

REFERENCES


The University of Oklahoma is an equal opportunity institution.