Catatonic Coma in a Patient With Schizophrenia Receiving Palliative Care With Reversal of Symptoms With Lorazepam

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Patients with disorders of consciousness (DoC) in the form of stupor or coma typically suffer from medical or neurologic illnesses. While uncommon, catatonia can manifest with dramatic unresponsiveness, yet with minimal ancillary symptoms. These cases of catatonic coma (CC) are nevertheless important to identify, as treatment with intravenous benzodiazepines is highly effective.[1] We present the case of a patient with CC, which precipitated a palliative care consult; however, full-dose lorazepam challenge changed this patient's clinical course.

Case Report

The patient was a 71-year-old woman who presented to the emergency department with altered mental status of 1 week duration. On initial evaluation, the patient was mute and did not open her eyes. Collateral history indicated a prior diagnosis of schizophrenia with unknown adherence to aripiprazole. Medical evaluation was remarkable solely for starvation ketosis. Urinalysis, infectious serologies, and chest x-ray were negative, and both computed tomography and magnetic resonance imaging of the head demonstrated no acute findings. Her blood alcohol level and urine drug screen were negative. The starvation ketosis was treated; however, 3 days later the patient's mental status had not changed. The consultation psychiatry service was consulted at this time.

On evaluation, the patient's Richmond Agitation-Sedation Scale (RASS)[2] score was −4 (Table 1).[3–8] Her Bush-Francis Catatonia Rating Scale (BFCRS)[9] score was 12. The next day, hospital day 7, lorazepam challenge 0.5 mg intravenous (due to advanced age and body mass index of 19 kg/m^2) was administered with no change in BFCRS score. Due to the patient's medical frailty and concerns of respiratory depression, a rechallenge was not performed.

Ultimately, due to this prolonged state of stupor, a palliative care consult was initiated. At this time, 10 days after the initial lorazepam challenge, lorazepam 1 mg intravenous was administered. Her BFCRS score decreased 2 points after 5 minutes. Thus, with the patient's vital signs stable, a second dose of lorazepam 1 mg intravenous was administered. Within 5 minutes, her BFCRS score decreased to 4. Lorazepam was titrated to 2 mg 3 times/d. After 1 week, her BFCRS score was 1, and aripiprazole was administered. Lorazepam taper was started. Three weeks after our initial consultation, the patient was discharged on lorazepam 1 mg 3 times/d with aripiprazole lauroxil.

Discussion

One clinical challenge in our patient with CC is that staring, reported to be present in 75% of patients with hypokinetic catatonia,[10] was not present, and both eyes remained closed. Thus, the first step of evaluating a patient with stupor or coma is to objectively quantify this state. A structured arousal scale, such as the RASS, is a reliable method to describe DoC.[11] RASS scores of −4 (as in our patient) or −5 indicate stupor and coma/CC, respectively.[12] For simplicity, we are subsuming CC to include those with RASS scores of −4 to −5.

After an unremarkable medical/neurologic evaluation, combined with our patient's history of schizophrenia and results as shown in Table 1, our differential diagnosis broadened to include CC and psychogenic coma. Notably, the electroencephalogram (EEG) is abnormal in over 43% of patients with catatonia but is less likely to be abnormal in patients with a history of psychiatric illness.[1] Toward this end, our patient's EEG (7 Hz) demonstrated a mild encephalopathy. Given our patient's RASS score, if medical/neurologic–induced stupor or coma was etiologic, we would suspect that the degree of slowing on the EEG would have been more pronounced.[13] Therefore, we reconsidered a diagnosis of CC due to schizophrenia, especially with a positive response to the lorazepam 1 mg rechallenge.[14] Interestingly, a small subset of patients with DoC respond not only to benzodiazepines but also to zolpidem, a γ-aminobutyric acid-A receptor agonist, selectively at α1 subunits.[15]

As demonstrated, lorazepam may have a life-changing impact on patients with CC.[7] Thus, in patients with DoC, coma should always be considered first, because it requires timely intervention. Nonetheless, clinicians need to consider CC in this intriguing phenotype.[16]

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Table 1. Clinical Features, Neurologic Studies, and Treatment Response: Differentiating Disorders of Consciousness (DoC), Catatonic Coma, and Psychogenic Coma (including our patient)[a]

Feature	DoC	Catatonic Coma or Stupor[b]	Psychogenic Coma
Alertness/awareness	Appears to be asleep; when vigorously stimulated, may become alert (eye opening)	**Appears to be asleep, unresponsive to surroundings, but appears conscious**	Appears to be asleep, reflex self-protection
RASS score	−5	**−4**	Inconsistent
Common symptoms	Mutism, immobility	**Mutism, immobility**	Mutism, immobility
Etiology	Structural, toxic-metabolic	Structural, toxic-metabolic, **psychiatric**	"Induced by extreme mental states"
Motor examination	Primitive reflexes, involuntary movements, and automatic movement sequences	**Localize to noxious stimuli, normal tone and reflexes**	Inconsistent but typically localization to noxious stimuli
Passive eyelid opening and eyelid tone	Easily performed, followed by slow, gradual eyelid closure	**Active resistance to passive eye opening; (–) slow, gradual eyelid closure**	Holds the eyes tightly closed; (–) slow, gradual eyelid closure
Passive eyelid opening and pupillary response	Pupillary dilation	**Dilated but reactive**	Constriction
Roving eye movements	(++)	**(–)**	(–)
Electroencephalography	Diffuse theta activity, progresses to more advanced slowing associated with decrease in level of consciousness	**Alert level: normal or mild slowing (age related); mild generalized slowing of 7 Hz, with no ictal activity**	Normal
Response to benzodiazepine treatment	Uncommon, approximately 10% of patients	Consistent with other subtypes of catatonia (approximately 80% for all causes unrelated to schizophrenia and 40% related to **schizophrenia**	Inconsistent
Motivation in symptom production	Unrelated	**Involuntary decrease**	Voluntary decrease

[a]Data from Freudenreich et al,[1] Sessler et al,[2] Ferri,[3] Berger and Price,[4] Sienaert et al,[5] Young and Rund,[6] Zhang et al,[7] Cartlidge,[8] and Ely et al.[12]
[b]Bolded font represents catatonic features present in our patient.
Abbreviation: RASS = Richmond Agitation-Sedation Scale (score −4 = no response to voice but movement or eye opening upon physical stimulation, score −5 = no response to voice or physical stimulation).
Symbols: (++) = present, (–) = not present.

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