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Informed Consent

Informed consent was obtained from the patient to write and publish this case report.

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References

1. Naranjo CA, Busto U, Sellers EM, et al. A method for estimating the probability of adverse drug reactions. *Clin Pharmacol Ther* 1981; 30: 239–245.
2. Richelson E and Souder T. Binding of antipsychotic drugs to human brain receptors: Focus on newer generation compounds. *Life Sci* 2000; 68: 29–39.
3. Vera PL, Miranda-Sousa A, and Nadelhaft I. Effects of two atypical neuroleptics, olanzapine and risperidone, on the function of the urinary bladder and the external urethral sphincter in anesthetized rats. *BMC Pharmacol* 2001; 1: 4.. Epub ahead of print 2001. DOI: 10.1186/1471-2210-1-4.
4. Cohen R, Wilkins KM, Ostroff R, et al. Olanzapine and acute urinary retention in two geriatric patients. Am J Geriatr Pharmacother 2007; 5: 241–246.
5. Mirzakhani H, Rahim M, and Mathew J. Expanding our understanding of atypical antipsychotics: acute urinary retention secondary to olanzapine. *Case Rep Psychiatry* 2020; 2020: 6157548.
6. Yang MC and Lin KY. Drug-induced acute angle-closure glaucoma: a review. *J Curr Glaucoma Pract* 2019; 13: 104–109.
7. Jain NS, Ruan CW, Dhanji SR, et al. Psychotropic drug-induced glaucoma: a practical guide to diagnosis and management. *CNS Drugs* 2021; 35: 283–289.
8. Razeghinejad MR, Pro MJ, and Katz LJ. Non-steroidal drug-induced glaucoma. *Eye (Lond)* 2011; 25: 971–980.
9. Achiron A, Aviv U, Mendel L, et al. Acute angle closure glaucoma precipitated by olanzapine. *Int J Geriatr Psychiatry* 2015; 30: 1101–1102.
10. Panday VA and Rhee DJ. Review of sulfonamide-induced acute myopia and acute bilateral angle-closure glaucoma. *Compr Ophthalmol Update* 2007; 8: 271–276.

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Clonazepam in Catatonia: Thinking Beyond the Boundary of Lorazepam: A Case Report

To the Editor,

Catatonia is a neuropsychiatric disorder involving motor and autonomic systems.[1] It is seen in 7% to 15% of acute psychiatric inpatients and needs prompt attention irrespective of its cause, whether functional or organic.[2] Lorazepam and electroconvulsive therapy (ECT) are preferred modalities of treatment.[3,4] In the literature, lorazepam is preferred over other benzodiazepines, without much explanation. Here we present a case who responded to a single dose of clonazepam, which has forced us to think beyond the traditional approach. The informed consent has been taken from the patient to report the case report.

Case Report

A 21-year-old male, educated up to bachelor's degree, previously diagnosed with schizoaffective disorder, was presented to psychiatry emergency service with mutism, immobility, staring, and not taking self-care for the last two months. He discontinued his medications four months back. Bush-Francis Catatonia Rating Scale (BFCRS) score was 23 at admission (**Table 1**). As inj. lorazepam was not available immediately, he was given tablet clonazepam 1 mg. The catatonic symptoms started improving. Within the next 2 h, the BFCRS score dropped to 8, which was maintained for the next 5 h (**Table 1**). At this point, he was injected lorazepam 1 mg intravenously to achieve further improvement, but BFCRS did not reduce beyond 7 even after 5 h of lorazepam as has been mentioned in **Table 1**. Later, the patient was interviewed and started on olanzapine 10 mg as he had earlier maintained well on it. On the next day, he was discharged with a tapering dose of clonazepam and later followed up after two weeks, when he was found to be maintaining well without any catatonic symptoms.

Discussion

Lorazepam is generally accepted as first-line because of its rapid onset of action. The onset of action is 1 min to 3 min if administered intravenously, 15 min to 20 min if given intramuscular, and 2 h if given orally.[5] There are very few studies on other benzodiazepines like diazepam and clonazepam, which were also found to be effective. Huang used a modified treatment strategy in which 14 patients with catatonic

TABLE 1.

BFCRS Score at the Time of Initial Evaluation and on Different Intervals After Intervention (Tablet Clonazepam).

Catatonic Sign	BFCRS Score at Initial Presentation	BFCRS Score After 2 h	BFCRS Score After 7 h	BFCRS Score After 12 h
Excitement	0	0	0	0
Immobility/stupor	3	0	1	0
Mutism	3	0	2	0
Staring	3	3	2	2
Posturing	3	1	0	1
Grimacing	0	0	0	0
Echolalia/echopraxia	0	0	0	1
Stereotype	0	0	0	0
Mannerism	0	0	1	0
Verbigerations	0	0	0	0
Rigidity	0	0	0	0
Negativism	0	0	0	0
Waxy flexibility	3	0	0	0
Withdrawal	2	0	0	0
Impulsivity	0	0	0	0
Automatic obedience	2	1	2	3
Mitgehen	0	0	0	0
Gegenhalten	0	0	0	0
Ambitendency	3	3	0	0
Grasp reflex	0	0	0	0
Perseveration	0	0	0	0
Combativeness	0	0	0	0
Automatic abnormalities	1	0	0	0
Total score	23	8	8	7

BFCRS, Bush-Francis Catatonia Rating Scale.

schizophrenia were treated with lorazepam 2 mg/mL intramuscular at the time of presentation in an Emergency Department, and also another 2 mg/mL intramuscular injection after 1 h if there were no response to the previous dose (trial 1). If that failed, diazepam infusion (10 mg/2 mL per ampule) in 500 mL 0.9% saline every 8 h was given for the day (trial 2). The response rates for catatonic signs were 85.7% at the end of 2 h of trial 1 and 100% at the end of the day after trial 2. It was evident that the modified treatment strategy relieved catatonic signs rapidly and completely, even without using ECT.[6] In 2017, Lin et al. also proposed the lorazepam-diazepam protocol for catatonia because of general medical conditions or substance use and showed that it could relieve catatonia within a day.[7] The use of parenteral clonazepam has been described in several case reports. In 1989, Martenyi et al. reported the effectiveness of parental clonazepam in four patients with catatonic schizophrenia.[8] In 1991, Benazzi also showed the effect of parental clonazepam in his four patients with catatonia with different primary aetiologies.[9] In 2001, Kumar showed the effectiveness of parenteral clonazepam in a young woman with acute catatonia.[10] Recently, in 2021, authors from Florida reported a case of periodic catatonia who had only a partial response with lorazepam and improved significantly with oral clonazepam.[11]

The catatonia syndrome lies on a spectrum and ranges from its milder form to severe forms such as neuroleptic malignant syndrome and malignant catatonia. Treatment of catatonia should not depend merely on classic catatonic symptoms. Rather, it should always consider the cause of catatonia and associated medical comorbidities and conditions, such as excessive drowsiness, respiratory suppression, and parkinsonian symptoms.[3] Literature mentions the successful use of other agents, such as zolpidem, tofisopam, amantadine, bromocriptine, and biperiden.[3,12] Most of the clinical guidelines specifically mention lorazepam instead of the broad rubric of benzodiazepines, which even constricts the alternate options in treating catatonia.[3] So, clinicians are left with only one option, failing which they often choose the second option of ECT. Long-acting benzodiazepines, like diazepam and clonazepam, might be helpful once lorazepam fails, as no comparative study describes otherwise.

Long-acting benzodiazepines with high affinity on gamma-aminobutyric acid-A receptors ($GABA_A$ receptors) (i.e., clonazepam) are potential molecules to improve catatonia in lesser frequent doses instead of multiple doses.[13] Benzodiazepines like clonazepam also have serotoninergic action on 5-hydroxytryptamine-1 (5HT1) and 5-hydroxytryptamine-2 (5HT2) receptors which modulate the GABAergic activity in the brain, which could play an additional role in treating catatonia.[14] As long-acting benzodiazepines are rarely mentioned in the literature, clinicians might not choose them in case of the unavailability of lorazepam in an emergency setting. Our case is important as it provides the rationale to use other alternative benzodiazepines in catatonia and not to limit ourselves to widely used lorazepam.

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References

1. American Psychiatric Association. *Diagnostic and statistical manual of mental disorders: DSM-5*. 5th ed. American Psychiatric Association, 2013. DOI: org.db29.linccweb.org/10.1176/ appi.
2. 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(9): 357–362.
3. Sienaert P, Dhossche DM, Vancampfort D, et al. A clinical review of the treatment of catatonia. *Front Psychiatry* 2014; 5: 181.
4. Pelzer AC, van der Heijden FM, and den Boer E. Systematic review of catatonia treatment. *Neuropsychiatr Dis Treat* 2018; 14: 317.
5. Kyriakopoulos AA, Greenblatt DJ, and Shader RI. Clinical pharmacokinetics of lorazepam: A review. *J Clin Psychiatry* 1978; 39(10 Pt 2): 16–23.
6. Huang TL. Lorazepam and diazepam rapidly relieve catatonic signs in patients with schizophrenia. *Psychiatry Clin Neurosci* 2005; 59(1): 52–55.
7. Lin CC, Hung YY, Tsai MC, et al. The lorazepam and diazepam protocol for catatonia due to general medical condition and substance in liaison psychiatry. *PLoS One* January 23, 2017; 12(1): e0170452.
8. Martenyi F, Harangozo J, and Mod L. Clonazepam for the treatment of stupor in catatonic schizophrenia. *Am J Psychiatry* 1989; 146: 1230.
9. Benazzi F. Parenteral clonazepam for catatonia. *Can J Psychiatry* 1991; 36(4): 312.
10. Kumar R. Acute severe catatonia in a young woman with chronic schizophrenia responding to parenteral clonazepam. *Aust N Z J Psychiatry* 2001; 35(3): 391.
11. Jiang S, Brownell KC, Kamper JE, et al. Clonazepam for catatonia incompletely responsive to lorazepam. *J Acad Consult Liaison Psychiatry* 2021; 62(1): 97–101.
12. Pattnaik JI, Deepthi RA, Dua S, et al. Role of tofisopam in post COVID neuro-psychiatric sequelae: A case series. *Indian J Psychol Med* 2021; 43(2): 174–176.
13. Greenblatt DJ, Miller LG, and Shader RI. Clonazepam pharmacokinetics, brain uptake, and receptor interactions. *J Clin Psychiatry* 1987; 48: 4–11.
14. Wagner HR, Reches A, Yablonskaya E, et al. Clonazepam-induced up-regulation of serotonin1 and serotonin2 binding sites in rat frontal cortex. *Adv Neurol* 1986; 43: 645–651.

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Survival of Combined Overdose with Very High Doses of Clozapine and Blonanserin: A Case Report

Sir,

Schizophrenia (Sz) is associated with an approximately 5% lifetime risk of suicide[1]; the 10-year risk is >8 times that in the general population.[2] Whereas this risk may be attenuated by clozapine,[3,4] patients with Sz have been known to overdose with clozapine itself.[5] A history of a suicide attempt is a predictor of future risk of attempted as well as completed suicide in Sz.[6] In this context, we had earlier reported a young woman who had survived a >10,000 mg overdose with clozapine.[7] We now report a second unsuccessful suicide attempt by this woman, which is unusual because of the combined use of very high doses of two antipsychotics. The patient's consent was taken for publishing this article, and she was assured that her identity would not be revealed.

Case Report

A 24-year-old woman diagnosed with Sz had survived an intentional overdose with 10,000 mg of clozapine in June 2021. After recovery, she was maintained on clozapine 100 mg/d and blonanserin 16 mg/d along with other necessary medicines; the medications were dispensed daily by her mother to preclude a repeated suicide attempt. Adding blonanserin to clozapine is a common practice in our setup in case of treatment refractoriness with clozapine. However, unknown to her family, she discovered where the medications were kept and, in August 2021, in a fit of anger, she overdosed with 40 tablets (4000 mg) of clozapine and 70 tablets (560 mg) of blonanserin. The overdose was discovered in two hours, and she was brought to the emergency room with symptoms of drowsiness, confusion, and irrelevant talk.

She was treated with gastric lavage, and activated charcoal was administered. Physical examination was largely unremarkable except for a heart rate of 124 bpm. Barring sinus tachycardia, her ECG was normal. Standard laboratory test results were within normal limits. She was managed with ivabradine 5 mg twice daily and prophylactic antibiotics. Drowsiness, slurred speech, and tachycardia remitted by Day 3. Low serum potassium of 2.5 mEq/L was corrected with oral potassium chloride. By Day 6, she had sufficiently recovered and was discharged. She is presently stable on clozapine 200 mg/d along with other necessary supporting medications; further precautions are being taken to preclude another intentional medication overdose.