Catatonia due to a General Medical Condition – An Updated Approach to Treatment

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Introduction

BACKROUND/SIGNIFICANCE

Catatonia Due to General Medical Conditions (CDGMC) is ascribed to a long list of medical illnesses, medications and toxins. CDGMC a critical yet often under-recognized condition, accounting for over 50% of catatonia cases in medical and surgical settings.

Early identification and intervention are paramount, particularly for consultation-liaison (C-L) psychiatrists, who play a key role in diagnosis and treatment. The **5 Cs Approach**—derived from previous literature (Carroll and Goforth, 2004; Carroll et al., 2013)—provides a structured method for managing CDGMC:

METHODS

We sought to apply the 5 Cs retrospectively to cases of Catatonia due to general medical condition published or presented in late 2022 or early 2023. Cases were selected from extensive discussion in the literature (N=1), single cases with access to medical record in the Adena Health System (N=2) and cases collected from the consultation-liaison service and presented in didactics (N=6). A total of 9 cases were analyzed for the 5 C's.

Clinical Presentation:

- **Catatonia Manifestations:** Delirium (N=4), Flaccid muscle tone (N=1), Malignant catatonia (N=1), Abulia (N=1), Altered mental status and bizarre behaviors (N=2), Suicidal ideation (N=1)
- **Treatment:** Lorazepam was administered in 8 cases.

Comorbid Conditions: Seizures (N=3), Withdrawal (N=9), Dehydration (N=6), Rhabdomyolysis (N=1), Hypernatremia (N=1).

Etiologies (MINDSET):

- **M:** N=1, **I:** N=2, **N:** N=2, **D:** N=0, **S:** N=1, **E:** N=1, **T:** N=2

Complications Addressed:

- IV fluids (N=6), Anticonvulsants (N=3), Contractures (N=1), Dysphagia (N=1).

CDGMC Mimicries:

- Bipolar mania (N=2), Dementia (N=3), Major depression (N=2), Schizophrenia (N=1), Atypical Psychosis (N=1).

The 5 C's Approach

Catatonia Conditions	Direct treatment for catatonia.
Comorbid Conditions	Treatment directed at co-occurring conditions.
Medical Cause	Treatment directed at the underlying medical cause.
Complications of Catatonia	Treatment to prevent and manage complications.
Closely Resembled Psychiatric Condition	Treatment of the psychiatric illness that it most closely resembles.

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Results

Table 1 — The 5 C's Treatment Approach for Catatonia Due to General Medical Conditions (CDGMC)

Case	Catatonia	Co-Morbid	Causative	Complications	Closely Resembles
Case 1 77 y/o M	Flaccid Catatonia – Lorazepam 0.5 mg PO TID Divalproex sodium 500 mg BID Olanzapine 5 mg QHS	Seizures – Levetiracetam IV EEG negative	Epilepsy / CNS disorders ruled out	Dehydration - IV fluids Check electrolytes	Bipolar disorder- manic Severe psychotic features
Case 2 32 y/o F	Catatonia with Delirium - Lorazepam 1 mg IVP (Lorazepam Challenge Test +) Refusal of Medications	Dizziness Falls Refusal of intake	Hypernatremia	Dehydration - IV fluids Seizure precautions – Anticonvulsants Check electrolytes	Major depressive disorder recurrent - severe with psychotic features
Case 3 55 y/o F	Catatonia with Delirium - Lorazepam 4.5 mg TID Amantadine 200 mg TID Refused ECT Discharge to Rehab Facility	Rhabdomyolysis Metabolic imbalances	SAH - S/P Right Frontal Surgery	Contractures DVT Falls/Fall precautions PT/OT IV fluids	Neural Injury from TBI CDGMC d/t TBI H/O OCD
Case 4 59 y/o M	Catatonia with Abulia - Fluphenazine 7.5 mg QD Citalopram 20 mg QAM Discharged to ECF	Failure to Thrive	Akinetic Mutism Bilateral medial frontal lobe atrophy	Patient given food / fluids in hospital	Schizophrenia catatonic type
Case 5 19 y/o F	Catatonia with Delirium - Lorazepam 1 mg TID Discharged to Home after R Ovarian Surgery	Seizures Leveracetam EEG negative Suicidal Ideation	NMDA+ Encephalitis LP + Right Ovarian Teratoma	IV Fluids Seizure Precautions - Anticonvulsants	Atypical psychosis Delirium
Case 6 59 y/o M	Malignant Catatonia with Delirium - Lorazepam 2 mg IV TID Valium 5 mg IV TID Olanzapine 5 mg IM X 4 Ziprasidone 20 mg IM Precedex IV	Self Injury Exhaustion	Benzodiazepine withdrawal Steroid Psychosis	IV Fluids 4 Point restraint	Excited Catatonia Bipolar disorder H/o of Major Depression and Generalized Anxiety Disorder
Case 7 65 y/o M	Catatonia - Carbamazepine withdrawal Lorazepam 1 mg PO TID Carbamazepine XR 400 mg BID	Seizure disorder Structural brain deficit Craniotomy Possible dementia	Carbamazepine withdrawal	R frontal/temporal encephalomalacia Inability to complete ADLs, dizziness	Dementia due to multiple etiologies
Case 8 22 y/o F	Catatonia due to Huntington's disease - Westphal variant Lorazepam .5 mg PO BID Fluoxetine 20 mg PO QAM	Miscarriage UTI Depression Anxiety Suicidal Ideation	Huntington's disease - Westphal variant	Dysphagia requiring oral SSRI administration	Major Depression, recurrent, moderate
Case 9 40 y/o F	Catatonia due to VZV Encephalitis Diazepam 5 mg IV TID Olanzapine 5 mg PO TID	Hypothyroidism Migraines Asthma	Varicella Infection	AMS Severe headache Emesis Anorexia Dehydration Agitation Fatigue	Psychosis Mania Dementia Delirium with manic symptoms Anti-NMDA receptor encephalitis

Cases 1- 6; Carroll BT, Fratczak M, Hassell J, Burns N, Honaker L. Catatonia on the Consultation-Liaison Service - Redux and Treatment Approach. Psychiatry Didactics, Adena Health System, February, 2023. Department of Psychiatry, Boonshoft School of Medicine, Dayton, OH, Grand Rounds, 2023 (new manuscript available upon request).

Case 7. Barnwell T, Saba S, Vellanki K, Carroll BT. A Case of Catatonia due to Carbamazepine Withdrawal. American Academy of Clinical Psychiatry, 2022, Annals of Clinical Psychiatry 35(1S):11-11, 2023

Case 8. Saba S, Vallery A, Barnwell T, Carroll BT. A Case of Catatonia due to Westphal Variant Huntington's disease. American Academy of Clinical Psychiatry, 2022, Annals of Clinical Psychiatry 35(1S):11-12, 2023

Case 9. Ibrahim R. El Rassi E, Jabbour R,, Khoury R. An Overlooked case of Catatonia. Current Psychiatry 21: 41-46, 2022

Conclusion

Patients in acute medical and surgical settings who presents with catatonia deserve a medical work-up that will prioritize its etiologies. CDGMC may comprise up to 50% of cases of catatonia. We recommend its use in consultation-liaison psychiatry for earlier identification and improved outcomes.

Further research is warranted to better understand CDGMC, particularly through the application of the MINDSET Stratification framework. The treatment of catatonia associated with general medical conditions can be effectively guided by the 5 Cs approach, which emphasizes:

1. **Catatonia:** Immediate treatment aimed at resolving the catatonic state (e.g., lorazepam, zolpidem, or ECT).
2. **Co-morbid:** Management of other co-occurring medical conditions that may exacerbate catatonia (e.g., antihypertensives for hypertension).
3. **Causative Conditions:** Targeted treatment of the underlying medical illness causing the catatonia (e.g., anticonvulsants for ictal catatonia).
4. **Complications:** Prevention and management of complications arising from catatonia (e.g., anticoagulants for hypercoagulability).
5. **Closely Resembling:** Treatment tailored to the psychiatric disorder that catatonia most closely resembles (e.g., mood stabilizers and antipsychotics for presentations mimicking bipolar disorder with psychotic features).

This comprehensive approach underscores the importance of a systematic evaluation and targeted intervention strategy for managing catatonia in the context of general medical conditions.

Methodology

Source of Cases	Selection Criteria	Number of Cases
Literature Review (Late 2022 - Early 2023)	Full chart availability	1
Adena Health System Records	Access to detailed medical records	2
Consultation-Liaison Service Didactics	Cases discussed in didactic presentations	6
Total Cases for 5 Cs Analysis		9

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