Potential Role of Bias in a Missed Neuropsychiatric Diagnosis in the Emergency Department: *A Case Report and Literature Review*

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The case:

A 25-year-old Black woman was brought by family to the medical emergency department (MED) for altered mental status (AMS) x 5 days. Triage decided she needed psychiatric evaluation but first needed "medical clearance" for tachycardia. Despite multiple lab and imaging abnormalities, she was cleared for transfer to the psychiatric emergency department (PED). Her family opposed this transfer and were ultimately escorted out of the hospital by security. In the PED, the patient was diagnosed with catatonia and responded to a lorazepam challenge. Neurology was consulted and advocated for medical admission for workup of organic etiologies of catatonia. The patient's family insisted on her discharge. One month later, the patient presented to an outside hospital in status epilepticus. She was diagnosed with lupus cerebritis.

A closer look:

- Progressive mutism, reduced oral intake, inability to bathe and dress independently x 5 days.
- Headaches and fevers over the past month.
- No recent travel or sick contacts. No medical or psychiatric illness, no substance use, no family history of psychiatric illness.
- MSE: Sitting upright on stretcher. Eyes darting, mouth chewing, and right hand rotating. Mute. Anxious appearing. Does not follow commands or make eye contact. Scored 15 on **Bush-Francis Catatonia Rating Scale**.[1]

1. Excitement	13. Waxy Flexibility
2. Immobility/Stupor - 2	14. Withdrawal - 3
3. Mutism - 3	15. Impulsivity
4. Staring - 1	16. Automatic Obedience
5. Posturing/Catalepsy	17. Mitgehen
6. Grimacing - 1	18. Gegenhalten
7. Echopraxia/Echolalia	19. Ambitendency
8. Stereotypy - 3	20. Grasp Reflex
9. Mannerisms	21. Perseveration
10. Verbigeration	22. Combativeness
11. Rigidity - 1	23. Autonomic Abnormality - 1
12. Negativism	

Vitals:
BP 123/79 | Pulse 149 | Temp 36.7 °C | Resp 17 | SpO2 97%
EKG:
Sinus tachycardia
Selected labs:
Cr 1.27, Hg 9, MCV 74, ESR 98, CK 355, D-dimer 2516
Imaging:
CT Head w/o contrast - motion-degraded, no acute intracranial pathology.
CT Chest w/ contrast - motion-degraded, no central pulmonary embolism, presence of bilateral axillary, prevascular, and right hilar lymphadenopathy.

Medical etiologies of catatonia:

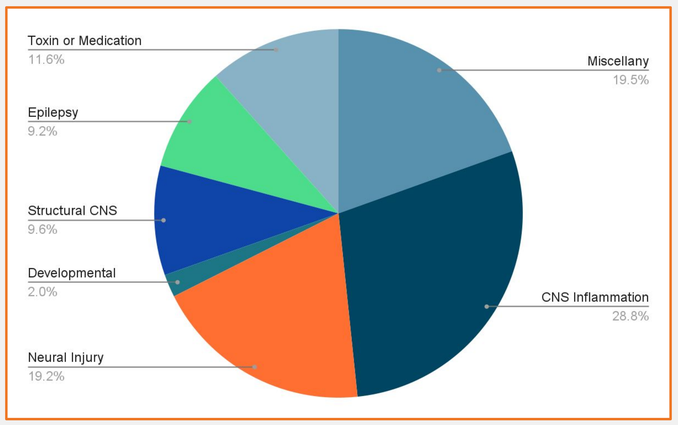
- Organic etiologies are responsible for more than 50% of catatonia cases in acute medical settings such as the emergency department.[2]
- Approximately two thirds of organic catatonia cases are related to CNS pathology.[2]

Table 1. Prevalence of medical catatonia across clinical settings.[2]

Prevalence	*N*	Mean age	Clinical setting	Institution (country)
13%[11]	30	37.9	Hospital wide	Chang Gung Memorial Hospital (China)
20%[12]	148	NR	CL and psychiatric hospital	McMaster University (Canada)
21%[13]	95	51.9	EMR (system-wide)	Mayo Clinic (US)
21%*[14]	29	43.2	Neurology department	University of Genova (Italy)
54%[15]	54	49.6	EMR (medicine)	University of Chicago (US)
40–60%†[16]	5	44.6	CL service	Ohio State University (US)
65%[17]	34	31.4	Emergency department	Chang Gung Memorial Hospital (China)
72%[18]	68	29.0	Tertiary inpatient neurological center	Nat'l Inst Neuro & Neurosurg. (Mexico)
80–100%‡[19]	5	54.4	Intensive care unit	Massachusetts General Hospital (US)
80–100%‡[20]	10	81.1	Elders on CL service	Complejo Hosp. de Navarra (Spain)
83–100%‡[21]	6	76.7	Elders on CL service	Wollongong Hospital (Australia)

Abbreviations: CL = consultation-liaison psychiatry.

Figure 1. Medical causes of catatonia by category.[2]



Bias in acute care settings:

- Bias on the basis of race, gender, and labeling as a psychiatric patient have all been linked to incorrect and/or delayed diagnosis.
- In the ED, lack of guidelines for medical clearance for psychiatric evaluation increases the risk for bias to influence diagnosis and treatment outcomes.[3]
- **Black ED patients** (compared to white counterparts) are less likely to
  - be triaged to the highest risk level
  - receive diagnostic testing
  - be admitted to the hospital

  and are more likely to die in the ED.[4]
- **Women** have been demonstrated to receive diagnoses later than men in over 700 disease categories.[5]
- Individuals labeled as **mental health patients** in the ED experience stigma and receive care that is under-resourced and deprioritized.[6]
- Beyond its impact on access to and quality of medical care, bias may directly worsen disease outcomes. In black women with lupus, experiencing higher rates of racial discrimination is associated with greater end organ damage.[7]

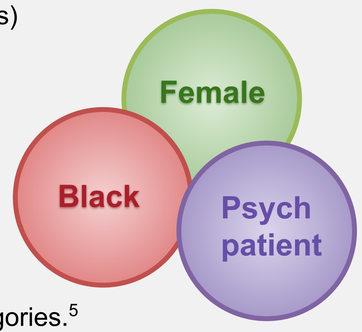


Figure 2. Catalepsy.[8]

Catatonia underdiagnosis:

- Catatonia is under-recognized among US psychiatrists at all levels of training.[9]
- Catatonia is underdiagnosed in psychiatric and general medical settings.[10]
- In medical settings, psychiatric consultation is associated with a lower rate of missed catatonia. However, psychiatric consultation is also associated with under-involvement of specialties such as neurology and under-performance of diagnostic tests such as EEG.[10]
  - **Black patients** with catatonia are more likely to be evaluated by psychiatry consults than patients of other races.[10]

Summary:

- In this case, race and gender bias, mental health stigma, and under-recognition of catatonia likely contributed to this patient's delayed diagnosis of lupus cerebritis.
- The patient-directed discharge was a bad outcome and perhaps a direct result of poorly integrated and biased care.

What should be done?

- There is a need for more robust catatonia education in psychiatry training so psychiatrists can better recognize catatonia and better advocate for patients experiencing neuropsychiatric symptoms in medical settings.
- Future research should investigate innovative approaches to standardizing medical clearance in the ED, with the goal of limiting the impact of implicit bias and improving patient outcomes and care integration.

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