

Hidden in Plain Sight: Recognizing Catatonia Amidst its Medical Complications

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ABSTRACT

Although catatonia is a common syndrome, diagnosis is often delayed or missed altogether. The medical sequelae of catatonia can cloud the diagnostic picture, making it difficult to know what is the primary problem. In this case, a patient presented several times about 1 month apart with recurrent urinary retention, inability to walk, and delirium. This resulted in admissions to Internal Medicine and consultations to Urology with the underlying primary problem being missed until catatonia was later recognized and diagnosed. The elderly are more prone to complications from catatonia and, as a result, it is even more important that catatonia be recognized and treated in a timely manner in this population. In addition to exploring the case, this article reviews the diagnosis, etiology, prognosis, and treatment of catatonia, particularly as these pertain to the elderly.

RÉSUMÉ

La catatonie est un syndrome commun, mais son diagnostic est parfois difficile à faire. Les symptômes associés à ce syndrome peuvent rendre le problème médical primaire difficile à déceler. Par exemple, l'association récurrente de symptômes de rétention urinaire, des difficultés à marcher et des signes de syndrome confusionnel qui se présentent chaque mois sont souvent associés à d'autres maladies. Ces manifestations symptomatiques mènent à des admissions en médecine interne et des consultations en urologie. Les cliniciens peuvent perdre de vue le problème primaire, celui de la catatonie. Le diagnostic est alors manqué ou découvert plus tard. Les personnes âgées sont plus susceptibles à des complications liées à la catatonie. Ainsi, il s'avère important que ce désordre soit reconnu et traité dans un délai raisonnable chez cette population. Cet article évalue le diagnostic, l'étiologie, le pronostic et le traitement de la catatonie, particulièrement dans le cadre des personnes âgées.

CASE

A 72-year-old man was transferred from an acute care hospital to a geriatric psychiatry inpatient unit at a mental health care centre. He had been admitted to the acute care hospital for delirium. He had a history of schizoaffective disorder (bipolar type) and had been living in an assisted living home. At the time of admission, he was on risperidone and lithium.

He had had several previous admissions to Internal Medicine for exacerbations of schizoaffective disorder and possible episodes of delirium. These episodes had increased in frequency over the last year and a half and were occurring about every month. He would typically present with urinary retention and subsequently be diagnosed with a urinary tract infection (UTI) and have urinary incontinence. Urology was consulted for his urinary symptoms. In addition, he would develop paranoia, anxiety, acute dystonia of both arms, tremor, and worsened gait. It was thought that

this might represent extra-pyramidal symptoms (EPS) due to increased sensitivity to his medications in the setting of his acute medical illness. He would improve rapidly when his medications were held. Once his medications were restarted, he would have no symptoms for several months until another seemingly spontaneous relapse occurred.

When he arrived on the geriatric ward, he was recovering from being unable to walk, talk, and eat. He displayed mild psychomotor agitation and an anxious affect. He had a resting tremor. No psychotic symptoms were evident. During admission, however, he had another one of these episodes that proved to be revealing. He became immobile, mute, and tremulous with a rise in creatine kinase (CK). He developed subsequent urinary retention and a UTI. The timing and causality appeared to be the reverse of what was originally assumed. Risperidone was stopped due to possible EPS. Lithium was stopped as he was unable to drink and thus was at increased risk of lithium toxicity.

Keywords: Catatonia; Elderly; Geriatrics; Psychiatry

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1. Catatonia Associated with Another Mental Disorder (Catatonia Specifier) – The diagnosis of another mental disorder must also be made. This specifier can be used for the following diagnoses:
 - a. Schizophrenia
 - b. Brief Psychotic Disorder
 - c. Schizophreniform Disorder
 - d. Schizoaffective Disorder
 - e. Bipolar Disorder
 - f. Major Depressive Disorder
 - g. Autism Spectrum Disorder
2. Catatonia Due to Another Medical Condition
3. Unspecified Catatonia

Figure 1. DSM Catatonia Types [5].

When able to observe the full-blown syndrome, the team recognized that he met criteria for catatonia and started him on regular lorazepam. His catatonia symptoms improved. He was started on clozapine and simultaneously weaned off lorazepam but his catatonia symptoms returned. As a result, clozapine was stopped and lorazepam restarted. He began to improve again and eventually returned to his baseline. He was discharged on lorazepam 1 mg PO TID. As a side note, electroconvulsive therapy (ECT) was also considered during the course of treatment but was not done as he had had complications during a past course of ECT.

WHAT IS CATATONIA?

Catatonia is a severe psychomotor syndrome associated with both psychiatric and medical conditions. It can present with seemingly opposing clinical features such as agitation and stupor. It can develop acutely and resolve quickly, lasting on the order of days, or in some cases can be chronic, lasting years [1,2,3].

EPIDEMIOLOGY

It is estimated that 10% of patients admitted to psychiatric units meet criteria for catatonia. Originally, catatonia was thought to be primarily associated with schizophrenia but it is now estimated that half of the cases are due to mood disorders and only 10–15% seem to be associated with schizophrenia. In hospitalized catatonic patients, 20–25% of cases are due to a general medical condition [3]. Elderly patients with major depressive disorder have the highest prevalence of catatonia [4]. Catatonia can also occur in the context of neurodevelopmental disorders such as autism spectrum disorder [3].

DIAGNOSIS

Catatonia was historically listed as a subtype of schizophrenia in the *Diagnostic and Statistical Manual of Mental Disorders*

Catatonia Associated with Another Mental Disorder:

The clinical picture is dominated by 3 or more of the following symptoms:

- Stupor (i.e., no psychomotor activity; not actively relating to the environment)
- Catalepsy (i.e., passive induction of a posture held against gravity)
- Waxy flexibility (i.e., slight, even resistance to positioning by examiner)
- Mutism (i.e., no, or very little, verbal response [exclude if known aphasia])
- Negativism (i.e., opposition or no response to instructions or external stimuli)
- Posturing (i.e., spontaneous and active maintenance of a posture against gravity)
- Mannerism (i.e., odd, circumstantial caricature of normal actions)
- Stereotypy (i.e., repetitive, abnormal frequent, non-goal-directed movements)
- Agitation, not influenced by external stimuli
- Grimacing
- Echolalia (i.e., mimicking another's speech)
- Echopraxia (i.e., mimicking another's movements)

Catatonia Due to Another Medical Condition:

Same symptoms as catatonia associated with another mental disorder. In addition:

- There is evidence from the history, physical examination or laboratory findings that the disturbance is direct pathophysiological consequence of another medical condition
- The disturbance is not better explained by another mental disorder
- The disturbance does not occur exclusively during the course of a delirium
- The disturbance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning

Figure 2. DSM-5 Criteria [5].

(DSM). In the *DSM-5*, catatonia is now listed as an independent syndrome, although it is still included under the section called 'schizophrenia spectrum and other psychotic disorders' [5]. There are three possible diagnoses (see Figure 1).

Most patients present with 5 or more of the symptoms that make up *DSM-5* criteria for catatonia (see Figure 2). The most frequent symptoms are mutism, negativism, and psychomotor arrest. Catatonia tends to be underdiagnosed. A Dutch study found that researchers identified catatonia in 18% of psychiatric inpatients but that only 2% were diagnosed clinically [3].

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Multiple rating scales are available to aid in diagnosis including the Bush-Francis Catatonia Rating Scale, Northoff Catatonia Rating Scale, Braunig Catatonia Rating Scale, and Rogers Catatonia Rating Scale [2]. The diagnosis is also validated if a patient clearly and rapidly improves in response to treatment with lorazepam, also known as the lorazepam challenge test [3].

DIFFERENTIAL DIAGNOSIS

End-stage dementia, akinetic mutism due to specific brain lesions, and EPS should be considered as differential diagnoses [5,6]. Of note, catatonia cannot occur exclusively during the course of a delirium per *DSM-5* criteria (see Figure 2) and thus, a hypoactive delirium should also be included on the differential diagnosis. Neuroleptic malignant syndrome (NMS) shares several features of catatonia and some authors have argued that NMS should be considered a subtype of catatonia [7,8,23]. Although this remains up for debate, catatonia is at a minimum considered a risk factor for NMS [7,9].

ETIOLOGY

Catatonia can be caused by both psychiatric and medical disorders including psychotic, mood, neurologic, metabolic, autoimmune, and paraneoplastic disorders [1,5]. Catatonia is a descriptive syndrome for which the pathophysiology is still poorly understood. There is ongoing debate about whether it is better understood as a neurobiological or psychological disorder [10]. Like many of our psychiatric diagnoses, catatonia may in fact represent more than one disorder with differing etiologies. For instance, acute catatonia is generally thought to involve a hypodopaminergic state and may be worsened by the dopamine antagonism of antipsychotics but responds well to lorazepam. Conversely, chronic catatonia does not typically respond to lorazepam but instead antipsychotics are used to treat the underlying psychotic illness, suggesting a mechanism different from that underlying acute catatonia [11]. Catatonia is also associated with dysfunctional GABA and glutaminergic transmission [12,13], fitting well theoretically with the use of treatments such as benzodiazepines and NMDA receptor antagonists that act on these systems [16].

INVESTIGATIONS

No laboratory test is diagnostic of catatonia. Investigations should instead be targeted toward detecting potential causes and complications. The following investigations should be considered depending on the clinical context: complete blood count (CBC), electrolytes, blood urea nitrogen (BUN), creatinine, liver transaminases, CK, erythrocyte sedimentation rate (ESR), antinuclear antibody (ANA), serum iron, urine toxicology, brain imaging, electroencephalogram (EEG), and lumbar puncture [2,6].

PROGNOSIS

Catatonia has an extremely variable prognosis, depending on severity and comorbidity [10]. Many patients recover fully if treated, while others may never recover and can develop chronic catatonia. If untreated, patients are at high risk for adverse outcomes from self-injurious behaviours, hyperpyrexia, malnutrition, and exhaustion. In rare cases of malignant catatonia, the syndrome can progress rapidly and lead to death. Patients typically require hospitalization due to decreased self-care. Prognosis is better for acute rather than chronic catatonia and for catatonia associated with mood disorders rather than schizophrenia [2,6,14].

TREATMENT

The cause of catatonia should be identified and corrected if possible. All patients should have their vital signs monitored and be provided with supportive care, such as intravenous fluids or a Foley catheter, as needed [6].

Treatment with lorazepam is well established in the literature and in clinical practice as the first-line treatment for catatonia, although no randomized clinical trials for acute catatonia have been completed [2,6,15,16]. A single dose of 1–3 mg lorazepam sublingually or intramuscularly is recommended to start [6]. If this has no effect, further doses can be repeated every 3 hours. Most patients “awaken” within 3 hours after receiving the first or second dose of lorazepam. The effective dosing regimen should be continued until treatment of primary disorder is well under way [6,10,14].

ECT should be considered if benzodiazepine treatment is not effective. It is the treatment of choice for malignant or lethal catatonia presenting with fever and autonomic instability. There have also been case reports of NMDA antagonists (amantadine and memantine) and antiepileptics (valproic acid and topiramate) being used effectively [13,17,18,19].

Antipsychotics should be started or reintroduced if necessary once the catatonic symptoms have resolved, given the increased risk of NMS during catatonia [6].

CATATONIA IN THE ELDERLY

Catatonia is often associated with general medical conditions in the elderly. Medical conditions are often overlooked in cases where the patient has a previous history of depression or schizophrenia [21]. Furthermore, catatonia in the elderly is often insufficiently investigated for differential diagnoses. Catatonia can imitate stroke, coma, and end-stage dementia [21,22]. Catatonia in association with NMS is also fairly common in the elderly. [21]. The diagnosis is often delayed longer in elderly patients, some-

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times by several months. They are at increased risk of adverse outcomes due to delayed diagnosis. These adverse outcomes can include pulmonary embolus, pneumonia, and death [20]. Elderly patients may require more aggressive measures to prevent and treat complications. For example, elderly stuporous patients should be treated with deep vein thrombosis prophylaxis [21,22]. Catatonia is treated with lorazepam as in younger patients, although lower doses should be considered and fall risk should be monitored [6].

DISCUSSION

This case highlights the difficulty in recognizing catatonia amidst its medical complications and differentiating it from other clinical entities. A trial of lorazepam helped both to resolve the patient's symptoms and to confirm the diagnosis. His catatonia worsened with clozapine; as discussed, antipsychotics can worsen acute catatonia and should not be restarted until the catatonic symptoms have fully resolved. Similarly, this may explain why, during previous episodes, he would improve in hospital when his antipsychotic medications were stopped. Interestingly, he presented with many features of NMS, such as rigidity, elevated CK, and change in mental status, in line with speculation in the literature that NMS and catatonia may be part of the same diagnostic spectrum or at least frequently co-occur.

CONSENT

Consent was obtained from the patient's substitute decision maker.

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