Lithium-induced Diabetes Insipidus or Drinking-related Stereotypical Behavior? A Case Report

Introduction

- Catatonia is a syndrome that has unique motor and behavioral manifestations.
- DSM-5-TR requires the presence of three out of twelve symptoms for diagnosis.
- Stereotypes are defined as repetitive, abnormal, frequent, non-goal-directed movements. Recent reports described some complex presentations of stereotypies, such as polydipsia, which was resolved with the treatment of lorazepam.
- We report a case of a patient with bipolar disorder and recurrent catatonia who was stabilized on lithium. However, lithium was discontinued due to concern about polydipsia and polyuria being related to lithium-induced nephrogenic diabetes insipidus. These symptoms persisted despite lithium discontinuation and resolved with the treatment of catatonia with lorazepam.

References

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3. Gopisetty DD, Gunther M, Jiang S. Accelerated-Onset Diabetes Insipidus Secondary to Lithium Use. Prim Care Companion CNS Disord. 2023 Jun 22;25(3):22cr03427. doi:10.4088/PCC.22cr03427. PMID: 37347676.

Case Description

- A 62-year-old female with a history of bipolar I disorder and recurrent catatonia presented to the hospital with worsening manic symptoms and catatonia.
- She was maintained on lurasidone 80 mg daily and lorazepam 2 mg TID. She demonstrated mutism, grimacing, echolalia, perseveration, verbigeration, and excitement. Lorazepam was increased to 4 mg TID, and lurasidone was increased to 120 mg daily, with some improvement in her symptoms but no complete resolution.
- A review of previous medication trials revealed that her symptoms of bipolar disorder and catatonia improved with lithium six years prior. She was maintained on lithium 450 mg BID and risperidone 4 mg daily, and her corresponding lithium level was 0.7 mmol/dl. She had another exacerbation of mania with psychotic features associated with catatonia, during which she was reported to have excessive drinking and urination. No labs were drawn during that period. However, lithium was discontinued due to concerns of polydipsia and polyurea.
- Polydipsia and polyurea recurred two months after lithium discontinuation, in association with catatonia features, and resolved with the treatment of catatonia. Hence, she was restarted on lithium 450 mg daily; the corresponding level was 0.5 mmol/dl. Her catatonia and manic symptoms resolved. Lorazepam was tapered down successfully to 1 mg TID with no reports of excessive urination or drinking.

Discussion

- Recent reports described excessive drinking and urination in the context of catatonia stereotypical manifestations, which improved with using lorazepam.
- Diabetes Insipidus is an occasional side effect of lithium that can occur in 10-15% of patients receiving lithium, leading to excessive production of urine and increased thirst.
- Both presentations can be similar; poor recognition can lead to inadequate treatment.

Conclusion

- Uncontrollable repeated drinking can be a complex presentation of stereotypies in patients with catatonia.
- Polydipsia and polyuria can have variable etiology in patients with bipolar disorder receiving lithium.
- Eliciting a good history of symptoms, course, and associated presentations like catatonia in addition to laboratory workups such as lithium level, renal function, serum and urine osmolality, and serum and urine sodium levels are important for appropriate diagnosis and treatment.

Table 1 Guidance for differentiation between Lithium-induced diabetes insipidus and stereotypical drinking

Differentiating factors	Lithium-induced Nephrogenic Diabetes Insipidus	Catatonia stereotypical drinking or psychogenic polydipsia
Association with lithium	Yes	Can occur with or without lithium
Presence of catatonia symptoms	No	Yes
Serum sodium	High >146 mmol/L	Low <135 mmol/L
Serum osmolality	High ≥300 mOsm/Kg	Average or low ≤280 mOsm/Kg
Urine sodium	High >170 mmol/L	Low <10 mmol/L
Urine osmolality	High >300 mOsm/Kg	Low <100 mOsmols/kg