

Psychogenic Polydipsia in a Patient with a Mood Disorder and Borderline Intellectual Functioning

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Introduction

Psychogenic Polydipsia is a disturbance in thirst control, involving an intake of more than 5 Liters of water per day.¹ Patient's symptoms develop in 3 phases, first polydipsia and polyuria, followed by hyponatremia and lastly water intoxication.^{1,2} Water intoxication may manifest as worsening of psychiatric symptoms, nausea, vomiting, delirium, ataxia, seizures and coma, it can be fatal.¹ PPD is a multifactorial malfunction of the hypothalamic pituitary axis, theorized to be the result of chronic excess fluid intake changing the feedback regulation. PPD is most commonly seen in positive symptom schizophrenics, compulsive behavior and stress reduction.¹ It can also be seen in psychiatric patients on anticholinergic medications as a way to reduce side effects.^{3,4} Another thought is that elevated levels of dopamine in a psychiatric patient may stimulate the thirst center, or super-sensitivity of the dopamine receptor may be responsible.⁴ Psychogenic polydipsia has mostly been seen in patients with chronic schizophrenia but is present in other psychiatric diagnosis as well.^{4,5} Psychogenic Polydipsia is part of the polyuria-polydipsia syndrome, central or nephrogenic diabetes insipidus are part of the differential diagnosis.⁴

Case Presentation

A 42-year-old Caucasian female presented to the hospital for symptoms of paranoia and psychosis after being petitioned by a family member for unstable behaviors. Upon admission patient was aggressive, agitated and was given Benadryl, Haldol and Ativan injection for her safety. Her last hospitalization was for electrolyte imbalances, suffering from hyponatremia and hypokalemia. Once the patient agreed to lab work, results showed a sodium level of 127 (normal range 135-145). The patient on admission was uncooperative and defensive, she refused to answer most questions and denied almost all allegations in her petition. Her only complaint was diarrhea, most likely from the hyponatremia and patient was placed on water restriction. Upon further evaluation the patient was found to have borderline intellectual functioning with an IQ of 75. This was surprising, based on the family collateral stating that she was previously an honors student in high school and had completed 2 years of a 4-year undergraduate program to receive her RN. Her first mood episode occurred shortly after her first child was born, when she was 21 years old, which coincided with her leaving her academic program. Since then, family reports recurrent manic episodes with paranoid delusions, that have been worsening over time. At the time of her first and only hospitalization she presented as psychotic, paranoid, aggressive and manic.

Differential diagnosis

Bipolar I Disorder with psychotic features
Psychogenic Polydipsia
Borderline Intellectual functioning

Discussion

The patient initially presented as paranoid, delusional, aggressive, and hyponatremic. This led us to pursue a possible medical cause to her psychosis. However, once placed on water restriction the hyponatremia resolved her paranoid delusions and agitated behavior persisted. Upon reviewing the results of the patients psychological testing and collateral information from the family, a diagnosis of Bipolar I Disorder with psychotic features emerged. One of the main barriers to patient care was the patient's refusal or inability to accept any psychiatric diagnosis for the majority of her hospitalization. We believe her borderline intellectual functioning may be impacting her ability to understand the diagnosis of psychogenic polydipsia and made difficult for her to understand why she was diagnosed as Bipolar I. After her Aripiprazole had been increased to 20 mg she became more cooperative and participated in an open discussion about both her psychiatric and medical diagnosis.

Conclusions

The patient's psychogenic polydipsia seems to be brought on during her manic episodes when her behavior is disorganized, erratic and she drinks an increased amount of fluids. Treating the patient's psychotic symptoms and improving her mood, in turn made us able to discuss how her medical and psychiatric diagnosis are intertwined. The Aripiprazole 20 mg attenuated her symptoms of mania and psychosis which allowed the patient to have a more organized thought process.

Bibliography

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