CASE REPORT

Mania Secondary to Hyponatremia in Elderly Patient: A Case Report

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Abstract

Manic symptoms secondary to hyponatremia is rare or might be under-reported. Awareness of this phenomenon is important for therapeutic considerations of patients. We present a case of late onset mania in an elderly gentleman who was previously diagnosed to have Major Depressive Disorder. His manic symptoms improved without medication after sodium level was corrected.

Keywords: Mania, Hyponatremia, Elderly Patient

Introduction

Hyponatremia is commonly seen in psychiatric patients and it may result in morbidity and mortality if not identified early. It is a frequently undiagnosed and untreated medical comorbidity in psychiatric patients. Cognitive and behavioral changes is more commonly seen in chronic hyponatremia [1].

Hyponatremia induced manic symptoms is poorly understood. It tends to be rare or understudied. Awareness of this phenomenon is important for therapeutic considerations of patients. We present a case of late onset mania in an elderly gentleman who had underlying Major Depressive Disorder who subsequently had hyponatremia secondary to polydipsia. His manic symptoms improved without medication after correction of sodium level.

Case Report

Mr. Y, 60 years old single Chinese gentleman had history of two admissions to psychiatry ward. He first presented with depressive symptoms for one-month culminating in suicidal attempt by ingesting food which he sprayed with insecticide. He was treated as Major Depressive Disorder and was prescribed with Tablet Sertraline up to 200 mg per day. After one month of admission, he was discharged to a nursing home. Three months later he was admitted again due to irritability and aggressive behavior. Upon further questioning from the caretaker, he was described as doing very well and no longer had significant depressive symptoms. He was very kind and helpful until one week prior to admission when he gradually became more irritable and aggressive. He destroyed furniture at the nursing home using a large knife on the day of admission. He was also noted to be more
talkative associated with reduced need for sleep. He also admitted having a lot of idea and spending spree. He had no delirium or dementia feature. He denied any hallucination. He admitted that recently he had frequent episode of quarreling with his roommate at nursing home. However, further history revealed he was not really compliant to Sertraline after the discharge from psychiatric ward. He was taking it only two to three times per week.

Upon admission, his vital signs, systemic and neurological examination were all normal. All blood investigations were normal except for his sodium which was low (125 mEq/L). At this juncture, he was diagnosed to have SSRI-induced mania. No medication was started. He was given intravenous infusion of normal saline (NaCl 0.9%) 3 pints over 24 hours to correct his hyponatremia. His intravenous infusion was stopped on day three of admission due to good oral intake. However, he still had manic symptoms and his sodium was still low on day four of admission (128 mEq/L). On the same day, he was started with low dose haloperidol 0.75 mg BD. On day 6 of admission, he had no more manic symptoms but at this point the haloperidol was withheld as he developed extrapyramidal side effects. This was also corresponding to a normalized sodium level (135 mEq/L).

However, on the next day patient displayed manic symptoms again. At that time, sodium level came down to 132 mEq/L. His fluid intake was restricted after he admitted to drink more than 5L/per day. Subsequently, his sodium level normalized again and he had no more manic symptoms. Following this, he was observed further for one week with no medication but he appeared to be normal with no manic or depressive symptoms. He was discharged later and was advised not to drink excessively and to monitor for mood symptoms during follow-up.

Discussion

Hyponatremia is defined as a serum sodium concentration less than 136 mEq/L. It is among the most common electrolyte abnormalities in clinical practice. Both hyponatremia and its treatment are associated with significant morbidity and mortality [2]. Hyponatremia is also common in older patients and is a risk factor for delirium even when it is mild [3].

Clinical manifestations of hyponatremia are mostly neurologic [4]. In mild to moderate hyponatremia, the presentation is usually asymptomatic, unless it develops rapidly. When hyponatremia progresses rapidly and is severe, initial symptoms of nausea and headache may progress to lethargy, psychosis, seizures, coma, respiratory arrest, brainstem herniation and death. Furthermore, mild chronic hyponatremia in geriatric patients frequently causes falls and attention deficits [5]. As in this case, this patient presented with mania as a manifestation of hyponatremia without any neurological symptoms.

Manic symptoms associated with hyponatremia tend to be rare or are else not reported. The available data propose that psychiatric symptoms include mania, depression, mood lability, and psychosis. There is dose dependent and often appear within the first 2 weeks [6]. Apart from that, there was a case of mania who developed catatonia in the presence of marked hyponatremia and showed rapid resolution of symptoms following correction of the hyponatremia [7]. Other psychiatric manifestations of hyponatremia are hyponatremia-induced catatonia and psychosis [8]. In addition, there was also a
case of a patient with bipolar affective disorder who developed panic symptoms with polydipsia and hyponatremia [9].

This patient also manifest late onset of mania at the age of 60 years old. Review of published case reports revealed that most of late onset mania (82%) had suspected underlying organic causes which included vascular causes, iatrogenic drug use, electrolyte imbalance, dementia and thyroid disease. An electrolyte imbalance was implicated in 9% of the cases. Treatment such as cessation of iatrogenic medication, correction of electrolyte or metabolic abnormality, treatment of infection contributed to successful remission of the manic episode [10].

It is important to look out for causes of hyponatremia. In this patient, there are two possible causes of hyponatremia which are the use antidepressant and polydipsia. Hyponatremia is among potentially dangerous side effect of antidepressants (not exclusive to SSRIs) [11]. The strongest association between hyponatremia and antidepressants is found in SSRIs [12]. However, this patient did not comply with his SSRI. Furthermore, the sodium level was still low even though the medication was stopped.

Among other causes of hyponatremia is polydipsia. Polydipsia is a common disorder among chronic psychiatric inpatients (more than 20%). Episodes of water intoxication associated with polydipsia are documented up to 5% of all chronic patients [13]. However, it is usually described in schizophrenia and rarely reported in bipolar affective disorder [14].

In this patient, we managed to normalize the sodium level after the fluid intake was restricted. Due to the serious effects of hyponatremia, it is recommended to monitor sodium level regularly in psychiatric patient especially in older age patient, patient on anti-depressant and patient with polydipsia. It is also important to treat this condition as it can lead to serious complications if left untreated. The awareness of medication that induced hyponatremia is also important in managing psychiatric patient. Moreover, more studies on late onset mania patient should be done to determine the risk and the cause of mania especially that are related to electrolyte imbalance. As for this patient, longitudinal follow up is needed to elucidate whether the mania he had was solely due to hyponatremia or he might actually have bipolar disorder.

References


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