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A RARE CAUSE OF SEIZURE

Endocrinology

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ABSTRACT

Hyponatremia as a cause of seizure is frequently encountered in the emergency department.
We report a case of a 40-year-old male who was brought to the emergency department with seizures. Initial investigations revealed hyponatremia. Upon correction of sodium he improved gradually, and the episodes of seizures got terminated.
His history was remarkable for excess urination and excess of water consumption. He had similar episodes of seizures for 3 months.
Upon further evaluation, we found out the cause for hyponatremia was Psychogenic Polydipsia secondary to Obsessive Compulsive Disorder (OCD).
The patient was prescribed antidepressants and he was doing well on follow-up.
Therefore, one must evaluate for the cause of hyponatremia while treating such cases so that the root cause can be corrected and therefore specific treatment can be given.

KEYWORDS

Seizure, Hyponatremia, Psychogenic polydipsia.

BACKGROUND

Psychogenic polydipsia is a condition characterized by polyuria and polydipsia. It occurs in 6% to 20% of psychiatric patients[1] and is more likely to be seen in schizophrenia, OCD. It is more common in middle aged females. Symptoms are infrequent unless patients continue to drink excessively (> 10 L/d) when threshold for urine dilution is reached (100 mOsm/kg with minimum urine osmolality) and with ADH suppression. Although the cause is multifactorial, most often it is due to malfunction of hypothalamic thirst center.

Chronic intake of excess fluid was postulated to change feedback regulation of hypothalamo-pituitary axis leading to dysregulation of ADH secretion.

CASE REPORT

A 40-year-old farmer presented in emergency department with complaints of altered sensorium and multiple episodes of seizure for last 1 day. Seizures were of GTCS semiology, with patient regaining consciousness between the episodes. There was no history of fever, trauma, similar past history. There was no history of comorbidities, substance/drug abuse.

Complete hemogram and liver function tests were Normal. Random blood sugar was 98 mg/dL. Renal function tests were as follows: Blood Urea: 36 mg/dL, Serum Creatinine: 0.9 mg/dL; Serum Sodium: 108 mEq/L, Serum Potassium: 4.0 mEq/L, Serum Chloride: 100 mEq/L, Serum Calcium: 9.8 mg/dL, Serum Osmolality : 227mOsm/kg, Urine Sodium : 18 mEq/L, Urine Osmolality : 112 mOsm/kg (Low), thyroid function tests were normal. CT Brain was normal.

In view of symptomatic hyponatremia, the patient was judiciously treated with 3% NaCl and 0.9% NaCl. With sodium Levels approaching baseline, the episodes of seizure subsided and the sensorium of the patient was improved. Further probing into the history, the patient's son revealed an interesting observation that the patient has been consuming more than 8 litres of water per day for the last 2 years (in order to lose weight).

Patient confirmed this and also gave history of polyuria in excess of nearly 6 liters of urine output per day. Previous Consultations included a gastroenterology consultation for dyspepsia which was evaluated with upper gastrointestinal endoscopy which revealed a small peptic ulcer. He was advised Weight loss, and medication for peptic ulcer disease (PUD). Patient was never satisfied with his efforts of weight loss and finally believed that excess water consumption is the solution. Psychiatry consultation was done based on the above history. They diagnosed him with Obsessive Compulsive Disorder for water consumption. MRI Brain was done which turned out to be normal. This confirmed our diagnosis of Psychogenic Polydipsia.

DISCUSSION

The thirst osmostat and AVP osmostat ensure fluid balance in the body [2].

PSYCHOGENIC POLYDIPSIA (PPD) condition characterized by polyuria and polydipsia. It occurs in 6% to 20% of psychiatric patients [1] and is more likely to be seen in schizophrenia, OCD. It is more common in middle aged females. Symptoms are infrequent unless patients continue to drink excessively (> 10 L/d) when threshold for urine dilution is reached (100 mOsm/kg with minimum urine osmolality) and with ADH suppression.

Although the cause is multifactorial, most often it is due to malfunction of hypothalamic thirst center. Chronic intake of excess fluid was postulated to change feedback regulation of hypothalamo-pituitary axis leading to dysregulation of ADH secretion.

DIPSOGENIC POLYDIPSIA causes include autoimmune conditions such as sarcoidosis involving hypothalamus and demyelinating conditions such as Multiple sclerosis; drugs such as anticholinergics or neuroleptics which cause dry mouth symptoms; and other conditions such as tuberculous meningitis, head injury.

The gold standard for diagnosis is the water restriction test. The urine osmolarity and plasma ADH will be low prior to the test in PPD.

MRI Brain a practical alternative. The posterior pituitary emits a normal bright spot which virtually excludes pituitary DI, argues against nephrogenic DI, and strongly suggests primary polydipsia.

CONCLUSION

Psychogenic Polydipsia as a cause of hyponatremia is difficult to diagnose without apparent psychiatric illness. Thorough history is the key to diagnosis. Cautious correction, Regular follow-up are key to management.

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