

Oxcarbazepine - induced hyponatremia in bipolar disorder: A report of two cases

Sir,

Oxcarbazepine (OXC) is an antiepileptic drug developed as a keto derivative of carbamazepine (CBZ) and is widely used as a mood stabilizer in patients with bipolar disorder.^[1] OXC monotherapy is as effective as that with CBZ, lithium, or valproic acid in treating bipolar patients and has fewer side effects.^[2] Hyponatremia has been reported to occur in 3–51% of epileptic or psychiatric patients taking OXC, often to a greater degree compared to CBZ.^[3]

A 57-year-old male, who suffers from bipolar disorder for the last 10 years, was on prophylactic sodium valproate 1000 mg/day without recurrence. Due to persistent pedal edema and weight gain, medication was changed and he was started on OXC, titrated to a dose of 900 mg/day within 1 week. There were no concomitant medications. He had no significant medical comorbidities. Three weeks after starting OXC, he developed fatigue, vomiting, reduced appetite and food intake, difficulty in passing urine, hiccups and altered sensorium. Biochemical investigations revealed serum sodium of 115 mmol/L and serum potassium of 5.1 mmol/L. All other investigations were normal. OXC-induced hyponatremia was suspected and OXC was discontinued. Hypertonic saline was given for 2 days. The serum sodium level returned to normal range on the 3rd day. CBZ 600 mg daily (20 mg/kg/day) in 2 divided doses was substituted for OXC. Hyponatremia has not recurred after 4 months.

A 33-year-old homemaker, with bipolar disorder, was admitted with severe tiredness, slurred speech, confused behavior and difficulty to walk within 1 week of initiation of OXC 600 mg/day. Previously, she was on sodium valproate monotherapy 600 mg/day. Medication was changed due to severe alopecia. She had no past significant medical illnesses. Blood investigations showed serum Na⁺ at 113 mEq/l and K⁺ at 4 mEq/l. All other investigations were within normal limits. Syndrome of Inappropriate ADH Secretion (SIADH) was ruled out. She was admitted and OXC was discontinued. Sodium level was corrected with hypertonic saline. By the 3rd day, sodium values were restored and the patient was clinically better. She was started on CBZ 600

mg/day in 2 divided doses on the 5th day and discharged on the 8th day. Hyponatremia has not recurred after 1 year.

Hyponatremia, defined as serum sodium of <135 mEq/l, occurred in 29.9% of OXC-treated patients, most cases being asymptomatic.^[4] In a previous report, severe hyponatremia, defined as serum sodium of <125 mEq/l, occurred in 2.5–3% of patients treated with OXC.^[5,6] Hyponatremia may be the result of a direct effect on the renal tubules or enhancement of their responsiveness to circulating antidiuretic hormone.^[7] It usually develops in the first 6 weeks of treatment. In our cases, sodium levels normalized immediately after dose reduction or withdrawal of OXC although discontinuation of OXC owing to hyponatremia is rare.

A thorough review of literature could not find reports of OXC-induced hyponatremia in bipolar patients. Being a severe adverse event and because of the increasing the use of OXC in bipolar disorder, psychiatrists should pay attention to this preventable side effect.

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Conflicts of interest

There are no conflicts of interest.

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Letters to Editor

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