



Oxcarbazepine Induced Hyponatremia

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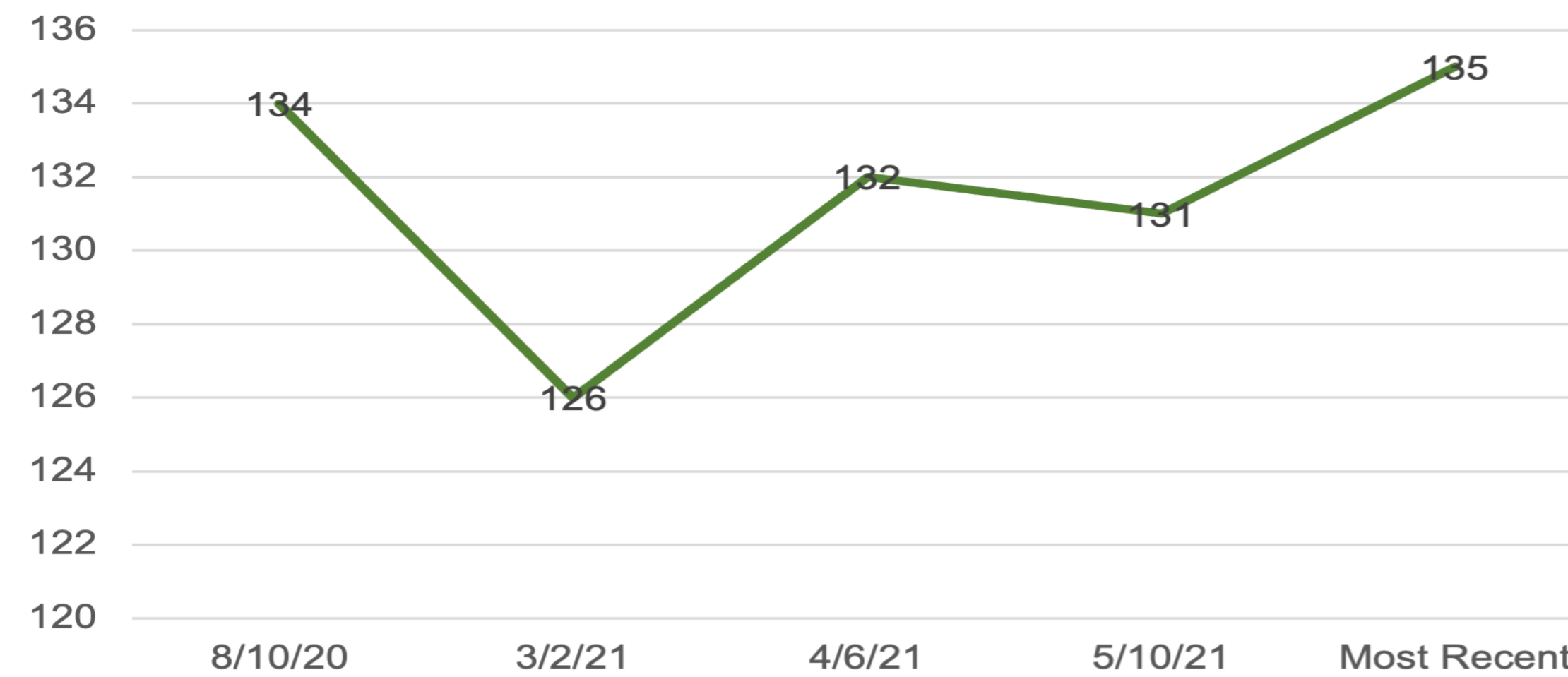
Abstract

- **Oxcarbazepine increases the risk of hyponatremia.** 59.4% of patients on oxcarbazepine experienced symptomatic hyponatremia within 2 years of beginning treatment (Figure 2).
- Advanced age, diuretic use, and polypharmacy increase the risk of severe symptomatic hyponatremia. Particularly, diuretic use and advanced age were more important risk factors.
- Patients taking oxcarbazepine are at increased risk to develop hyponatremia during events that require increased volume intake, hot weather or post-op.

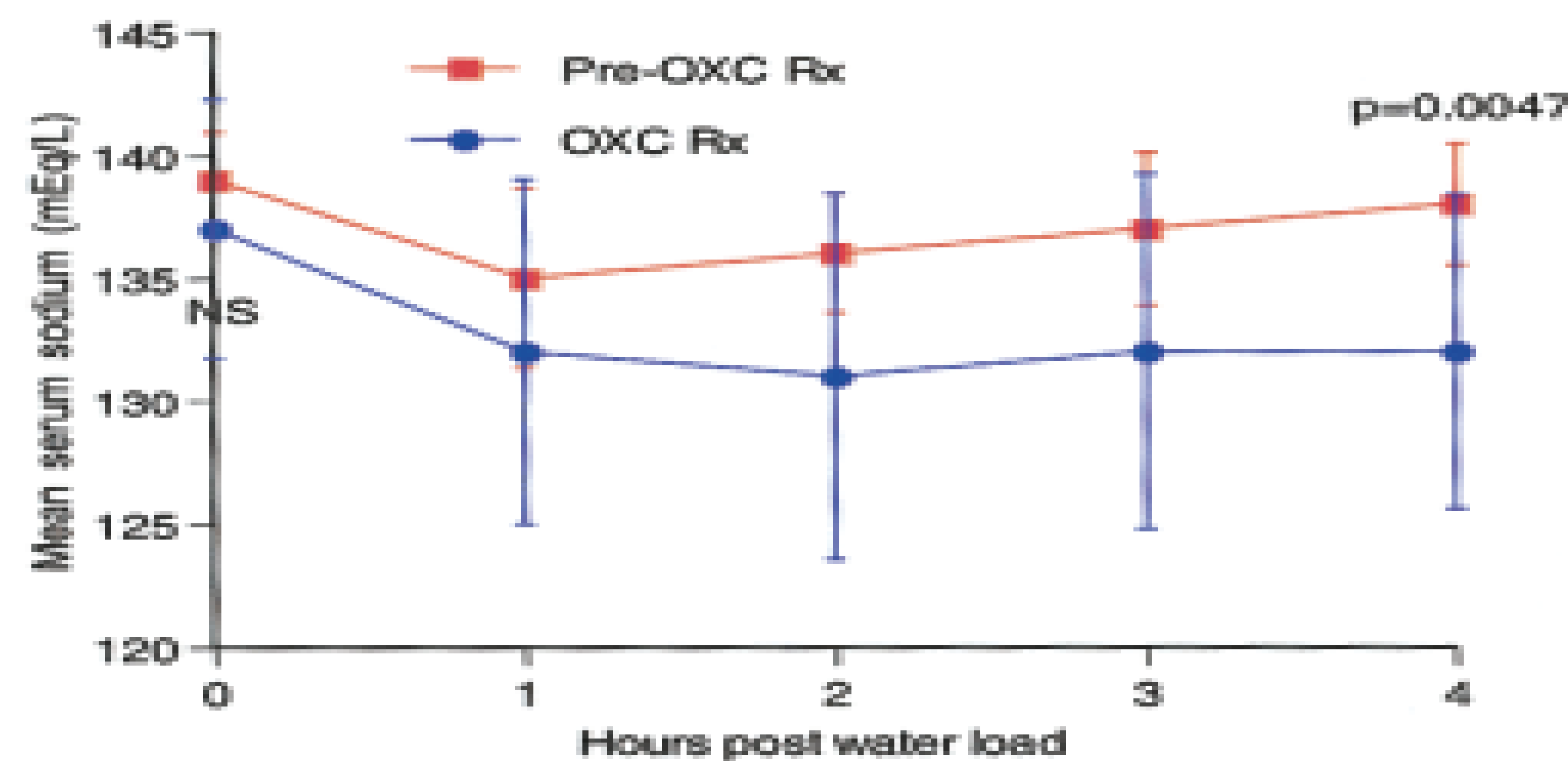
Case Report

This is a 66-year-old Caucasian male with a history of Bipolar II Disorder, Post-Traumatic Stress Disorder (PTSD), Generalized Anxiety Disorder (GAD), and Insomnia, treated with Oxcarbazepine 600 mg. He was experiencing diarrhea 3-4 times per day as well as 3-4 episodes of nocturia per night. On investigation done by PCP, BMP showed he was hyponatremic but asymptomatic (figure 1). His lowest lab value was 126 mEq/L. Patient's urine studies with urology showed a high concentration of sodium. His oxcarbazepine dose was decreased to 300 mg and sodium has improved to 135 mEq/L on patient's most recent BMP. Hydroxyzine 50mg was added for any continuing symptoms related to his PTSD.

Blood Sodium Concentration (mEq/dL)



Healthy Volunteers



Discussion

- Patients taking oxcarbazepine for extended therapy should be monitored for development of hyponatremia, especially during events that would require increased fluid intake.
- Oxcarbazepine-induced hyponatremia should be considered in patients whose previously well controlled seizures become refractory to treatment, present with unprecipitated altered mental status or abnormal behavior.
- Patients should be educated on the signs and symptoms of hyponatremia such as, dizziness, somnolence, headache, abnormal vision, insomnia, or ataxia.
- Patients should be educated on the risks of hyponatremia when using concomitantly common therapies such as aspirin, NSAIDs, diuretics, CCBs and TCAs.
- Monitoring of ADH levels is not indicated as other investigations show that levels remain within normal limits and are not the root cause of hyponatremia.

References

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2. Sachdeo, R. C., Wasserstein, A., Mesenbrink, P. J., & D'Souza, J. (2002). Effects of oxcarbazepine on sodium concentration and water handling. *Annals of Neurology*, 51(5), 613–620. <https://doi.org/10.1002/ana.10190>