

Abstract

Patients with altered mental status and seizure or psychiatric disease often present with an unclear medication history. Commonly prescribed medications include valproic acid (VPA), lithium (Li), or carbamazepine (CZN) of which our regional poison center (RPC) often recommends obtaining these serum concentrations. Regularly ruling out supratherapeutic concentrations without a known history of ingestion may help direct care.

Cases from our RPC coded as VPA, Li, and CZN, from January 1, 2006 to December 31, 2008, were searched. All patients with supratherapeutic concentrations (VPA >100 mcg/mL, Li >1.2 mEq/L, CZN >12 mcg/mL) were evaluated for the following criteria: 1) those with altered mental status and an unclear history of seizure or psychiatric disorder and 2) a medication profile not including VPA, Li, or CZN. Twenty-six patients met the inclusion criteria: 8 patients in the VPA group (113-247 mcg/mL; mean 158), 9 patients in the Li group (1.9-5.2 mEq/L; mean 2.9), 9 patients in the CZN group (13.4-38.8 mcg/mL; mean 23.2). All patients survived and were treated with supportive care; however, one patient had a Li level of 5.2 mEq/L and received hemodialysis.

In altered patients potentially being treated for seizure or psychiatric disorders and unknown ingestions or medication lists, obtaining concentrations of VPA, Li, and CZN may help direct care and provide clinically relevant information. Our RPC detected twenty-six patients with supratherapeutic VPA, Li, or CZN concentrations in patients with potential indications for the agent, but no available history of drug ingested or medication list. A prospective study is warranted to evaluate the usefulness of obtaining these concentrations in this patient population.