LEARNING OBJECTIVES

• Review the anticipated clinical course for severe bupropion toxicity
• Identify the potential rare complications seen with ingestion of the extended release formulation of bupropion
• Identify the current available therapeutic interventions for severe bupropion toxicity

CASE PRESENTATION

HPI: 35-year-old woman, weighing 59 kg, presented to the emergency department (ED) approximately 4 hours after intentional ingestion of 90 tablets of 150 mg extended release bupropion and an unknown amount of methylphenidate. The patient was seizing upon EMS arrival, which resolved after 2 mg of intravenous (IV) lorazepam.

Exam: ED vital signs: HR 125/min and BP 163/80 mmHg
• She was somnolent, offered confused responses to questions, but localized to pain.
• She was diaphoretic and her pupils were 3 millimeters, equal and reactive.

Emergency Department Course:
• She had a metabolic acidosis with pH, 7.23; anion gap, 23; and arterial lactate, 12 mmol/L.
• Initial EKG was notable for sinus tachycardia and QT, 473 ms.
• While in the ED, she had a 30-second generalized tonic-clonic seizure, that self-resolved, after which she was treated with another 2 mg IV lorazepam.
• Her post-ictal period lasted less than 10 minutes, and she returned to her presenting mental status. She was admitted to the medical intensive care unit.

Medical ICU Course: Within a short time, she developed status epilepticus and was intubated. She developed wide-complex bradycardia and hypotension requiring vasopressors. Cardiac arrest occurred twice, for 5 minutes and then 60 minutes, with return of spontaneous circulation. 200 mEq IV sodium bicarbonate were administered. Extracorporeal membrane oxygenation, intravenous lipid emulsion infusion, and continuous renal replacement therapy were initiated. After 24 hours, though, her examination was consistent with brain death and care was withdrawn.

DISCUSSION

• The sodium channel blockade exhibited by bupropion, manifested as QRS widening and cardiovascular collapse, was delayed in onset, likely due to extended release preparation.
• Sodium bicarbonate, charcoal hemoperfusion and intravenous lipid emulsion therapy administration are controversial in bupropion toxicity, but have the potential for benefit.
• Although severe toxicity is not uncommon with large doses of bupropion, death is rare.

REFERENCES