Flecainide Toxicity: What Physicians Need To Know?

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INTRODUCTION:
Flecainide is a class 1C antiarrhythmic medication that is used to treat supraventricular arrhythmias. In overdose, it can lead to lethal arrhythmias. Despite its rarity, flecainide overdose has been reported. Sodium bicarbonate, intravenous lipid emulsion has been reported to be effective treatment in this condition.

Case presentation:
A 44-year-old male with a medical history of seizure and sick sinus syndrome status post dual chamber pacemaker who was presented to the hospital after having a seizure episode that was accompanied with a pre-event aura. He subsequently endorsed mild chest discomfort, dyspnea, and diaphoresis. On presentation to the hospital, he was tachypneic and tachycardic with a heart rate of 150 and otherwise, normal hemodynamics. His laboratory testing results revealed non-anion gap metabolic acidosis but otherwise had normal electrolytes. Troponin levels were mildly elevated, with a peak of 0.31 and a flat trend. His ECG and telemetry showed wide-complex arrhythmias (figure-1, A).

Decision making:
The arrhythmia was initially treated with amiodarone infusion intravenously, but QRS remained prolonged (Figure-1, B). The cardiac electrophysiology team attributed that to flecainide toxicity, and he was started on intravenous sodium bicarbonate infusion and flecainide was discontinued. The arrhythmia eventually resolved, and the QRS duration normalized (Figure-1, C). He was later discharged with instructions not to take flecainide again.

Discussion:
This patient's case highlights the importance of identifying flecainide toxicity based on ECG patterns and patient history. A sodium bicarbonate infusion can also be used to reverse acute toxicity and reverse life-threatening arrhythmias like in this patient case. Treatment protocols for flecainide toxicity are not formally studied and more research is needed.