

Loperamide-Induced Torsades de Pointes: A Case Series

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Background

Loperamide (Imodium™) is an antidiarrheal opioid acting at the μ receptor agonist in high concentrations. Due to the US opioid epidemic, loperamide abuse and ensuing life-threatening toxicity has surfaced.

Hypothesis

The timing and duration of Torsades de Pointes (TdP) from loperamide toxicity is unpredictable and should be heeded with caution, even in asymptomatic patients and drug discontinuance.

Methods

Two patients presenting with life-threatening TdP requiring lengthy hospital admissions for confirmed loperamide toxicity are discussed. Patient data were retrieved from the hospital's EMR system.

Case #1

A 28-year-old man with a history of depression and heroin abuse presented to the ED with shortness of breath and lightheadedness. He admitted to ingesting large amounts of loperamide daily. His initial ECG demonstrated sinus rhythm 67 bpm, right axis deviation, undetectable PR interval, QRS 168ms and QTc 693ms. The patient was administered sodium bicarbonate and magnesium sulfate IV and admitted to the ICU. On HD 2, he developed multiple and persistent TdP. He was administered lidocaine and isoproterenol infusions, and a temporary, external pacemaker was placed for overdrive pacing. He was discharged in stable condition on HD 16 after all therapies were discontinued. Serum loperamide and desmethyl loperamide concentrations obtained on HD 1 measured 120ng/mL and 560ng/mL, respectively. Serum loperamide and desmethyl loperamide concentrations on HD 10 measured undetectable and 16ng/mL, respectively.

Case #2

A 39-year-old woman with Hepatitis C and a history of depression and IV drug abuse was transported to the ED after reported seizure-like activity. The patient experienced TdP in the ED and admitted to ingesting large amount of loperamide daily. An ECG demonstrated: sinus rhythm 64 bpm, right axis deviation, PR interval 208ms, QRS interval 142ms and QTc 687 ms. She was administered IV magnesium, sodium bicarbonate, and later, isoproterenol. After ICU admission, the patient experienced no further TdP and was discharged on HD 6. Loperamide and desmethyl loperamide concentrations on HD 4 were undetectable and 27ng/mL, respectively.

Conclusion

These cases illustrate the extreme and persistent toxicity associated with loperamide abuse and need to treat ECG derangements aggressively, even in asymptomatic patients.

