CASE REPORT

Dangerous use of loperamide to counteract withdrawal symptoms from prescription opiates

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Increased awareness of opioid overuse in recent years has brought a new set of problems for both patients and clinicians. A 36-year-old woman with severe opioid use disorder began self-treating withdrawal symptoms with increasing amounts of Loperamide according to self-help information she obtained on YouTube. With dangerous "advice" so readily accessible on the internet, it is difficult to protect individuals from harmful physiologically-driven addiction behaviors. However, there are several possibilities for risk reduction including restricting access to loperamide or increasing accessibility to medication assisted treatment.

Keywords: Opioid use disorder, opioid withdrawal, loperamide abuse, buprenorphine, medication assisted treatment.

INTRODUCTION

Increased awareness of opioid overuse in recent years has brought a new set of problems for both patients and clinicians.[1] It has become increasingly commonplace for clinicians to "fire" or abruptly stop prescribing opiates to patients they feel have become dependent on the medications. Additionally, since the number of clinicians equipped to treat chronic pain and opiate use disorder has not increased sufficiently to address this new need, individuals are increasingly turning to dangerous illicit or over the counter alternatives.[2] The case that follows describes a patient who encountered severe morbidity in a self-initiated attempt to reduce her use of prescribed oxycodone, utilizing a relatively novel measure of Loperamide to counteract withdrawal symptoms.

CASE REPORT

A 36-year-old woman with a history of severe opioid use disorder called her neurologist about episodes of seizure-like activity while trying to reduce her use of prescribed oxycodone. The patient began taking prescribed opiates consistently at age 18 and denied use of all other illicit substances. She had persistent efforts to cut down for two years due to "family discord" related to her overuse of opioids. She subsequently began self-treating withdrawal symptoms with increasing amounts of loperamide. Her daily use in the weeks preceding admission included up to 500mg

oxycodone, and 600-800mg loperamide. Just prior to admission, she initiated attempts to eliminate the loperamide by decreasing to 60mg per day.

The patient was admitted and treated supportively for withdrawal symptoms, which were tracked using the Clinical Opiate Withdrawal Scale (COWS)[7]. On this regimen, she continued to demonstrate a stable sinus bradycardia with a QTc of 465. Early the next morning, she reported episodes of lightheadedness and tunnel vision that corresponded with telemetry reports of 15-30 second periods of self-converting torsade's de pointes. Dopamine and magnesium were administered emergently, and the patient was transferred to the cardiac intensive care unit for observation and temporary pacing. Patient exhibited signs of withdrawal including chills, cold sweats, and piloerection. Based on the patient's patterns of use of loperamide, toxicology recommended a 10-day washout period before attempting re-initiation of any QT-prolonging medications. The ensuing hospital course was free of further cardiac events and seizures. After this period, buprenorphine was initiated for withdrawal symptoms and cravings and the patient improved considerably with the withdrawal symptoms. She was induced on buprenorphine 8-2 daily and then increased to twice daily and tolerated it well. Upon discharge, she was seen in the addiction treatment program for planning of continued maintenance.

DISCUSSION

Loperamide is a μ-opioid receptor agonist that is an over the counter medication (OTC) commonly used to treat diarrhea. At doses up to 16mg, it primarily acts on μ-opioid receptors in the myenteric plexus of the intestinal wall, prolonging GI transit time by inhibiting peristalsis. The minimal activity on the central nervous system (CNS) is due to the P-glycoprotein efflux pump which actively expels loperamide out of the CNS. At high doses, these multidrug efflux pumps become saturated, allowing the drug to accumulate and exert its CNS effects.[3, 4] To treat symptoms of opioid withdrawal, 70mg of loperamide was most commonly used. Higher doses ranging from 100-200mg was also common.[2] At supratherapeutic doses, loperamide carries a significant risk for cardiotoxicity, manifesting as dysrhythmias due to QT prolongation. Its arrhythmic effect is due to the inhibition of (Na^+/K^+) transmembrane channels on cardiomyocytes, resulting in a widening of the QRS-complex and QT prolongation.[3] Loperamide cardiotoxicity has been seen with doses ranging from 100-800mg. In this case, our patient's regular use of 600-800mg of loperamide likely was the cause of her torsades de pointes.

As prescription opioids are becoming more difficult to obtain, many patients are searching online for alternative ways to self-treat their withdrawal symptoms.[5] Unfortunately, these online suggestions are risky and usually comes from an unreliable resource. For example, our patient in this case learned about loperamide therapy from a simple YouTube search. With these dangerous "advice" so readily accessible on the internet, it is difficult to protect individuals from the potential adverse effects and harmful physiologically-driven addiction behaviors.

As an OTC medication, loperamide is legal, easily obtainable, and cheap which makes its misuse more concerning. There are several possibilities that can reduce the risk with loperamide. The first would be to consider placing loperamide behind the pharmacy counter to regulate the quantity purchased.[6] Other ways to reduce risk would be to increase accessibility to medication assisted treatment (MAT) such as

methadone, buprenorphine, or naltrexone by reducing cost, increasing awareness, and increasing the number of clinicians willing to prescribe buprenorphine[8]. Screening for substance use disorders and motivational interviewing continues to serve a crucial role in every clinical setting to reduce risk. Supporting patients through the pre-contemplative stages and assisting them toward their goals will ultimately lead them to better mental and physical health.

Notes

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