



Acute altered mental status secondary to naltrexone-induced opiate withdrawal

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Abstract

Altered Mental Status (AMS) is a common presentation seen in the emergency room and hospital wards. As such, it is essential that physicians have a systematic approach to determine the underlying cause of AMS. Given the increase in opioid usage, opioid withdrawal is an important differential diagnosis of AMS. Opioid withdrawal may be precipitated by the cessation of opioid use or the use of an opioid antagonist. Unfortunately, the latter may not be immediately considered by the physician to be a cause of a patient's AMS. This case illustrates that the use of an opioid antagonist, such as naltrexone, may precipitate acute AMS in those who also take chronic opioid prescription analgesics and highlights the importance of a thorough pharmacological review before initiating new prescriptions, in both the inpatient and outpatient setting.

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Introduction

A 62 year-old women with restless leg syndrome presented with acute agitation and confusion of three hours duration. On presentation, patient was agitated and restless. She had rhinorrhea, tachycardia and dilated pupils that were minimally responsive to light. In the Emergency Department (ED), she required four point restraints secondary to her aggression. She received benzodiazepam and antipsychotics, after which developed slurred speech and failed to follow commands. Laboratory findings included an elevated serum lactic acid at 3.7 mmol/L and CPK at 606 U/L. A urine drug screen was positive for benzodiazepines; however, she had been given midazolam by EMS and the ED. There were no acute abnormalities on CT of the head.

Medication review revealed the heavy chronic use of tramadol (>400mg/day) prescribed for restless leg syndrome. Upon further questioning of her husband, it was discovered that she had begun taking naltrexone, prescribed by her primary care physician, just prior to onset of symptoms.

Discussion

AMS is a frequent presentation encountered by physicians, particularly hospitalists, emergency physicians, and psychiatrists. A systematic approach to determining the underlying cause is essential. Opioid withdrawal is an important differential diagnosis of AMS. General clinical manifestations of opioid withdrawal include mydriasis, tachycardia, irritability, aggres-



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sion and restlessness, all of which were demonstrated by this patient.

The onset of withdrawal, sequence and intensity of symptoms can vary widely between individuals and opioid drugs. Spontaneous opioid withdrawal transpires when one who is physiologically dependent on opioids suddenly stops its use, whereas precipitated opioid withdrawal occurs when a patient with opioids in their systems is simultaneously administered an opioid antagonist. Unlike the scenario produced by the cessation of opioid use, withdrawal induced by an opioid antagonist may cause a surge in catecholamines and hemodynamic instability, which can be life threatening.

Naltrexone competitively blocks the μ - and κ opioid receptors at a greater affinity than an opioid agonist. When naltrexone occupies the receptors, the cell cannot respond to circulating opioid molecules. In an opioid dependent individual, naltrexone may precipitate withdrawal symptoms within 5 minutes of ingestion. In this patient who was taking tramadol regularly, the ingestion of naltrexone caused abrupt signs and symptoms of withdrawal. Before prescribing an opioid antagonist to patients, a thorough review of initiation recommendations should be conducted. It is recommended that patients be opioid free for 7-10 days, which is to be confirmed by urinalysis, before initiating naltrexone. The patient took naltrexone while actively taking high doses of tramadol, causing an abrupt, severe opioid withdrawal syndrome [1-6].

Conclusion

This case illustrates that the use of an opioid antagonist, such as naltrexone, may precipitate acute AMS in those who also take chronic opioid prescription analgesics.

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