A 45-year-old woman with an anticholinergic toxidrome


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ABSTRACT

Intentional or accidental intoxications are common in the emergency department, but are not always sufficiently recognised. When intoxication is suspected, the causative agent or combination of agents often remain unclear, making these patients a diagnostic challenge. We present here a 45-year-old woman who was admitted due to altered consciousness. The clinical presentation fitted the anticholinergic toxidrome and an intoxication with venlafaxine (her known prescribed medication) was suspected. Plasma venlafaxine concentrations, however, were very low. After 24 hours the patient recovered completely. Further testing after discharge revealed high concentrations of promethazine, confirming the suspected diagnosis. This case illustrates the importance of knowledge of toxidromes and good collaboration with the hospital pharmacist. Because of the thorough testing the patient could receive proper treatment.

INTRODUCTION

Intentional or accidental intoxications are common in the emergency department, but they are not always sufficiently recognised. Approximately 11,000 patients with intentional intoxications are seen each year in Dutch emergency departments. Statistics concerning morbidity and mortality are incomplete. When intoxications are suspected, the causative agent or combination of agents often remains unclear, making these patients a diagnostic challenge.

CASE REPORT

A 45-year-old woman presented to the emergency department by ambulance because of altered consciousness. Medical history revealed hypertension, depression and alcohol abuse. Her known prescribed medications were venlafaxine 150 mg once daily, omeprazole 20 mg once daily and irbesartan 150 mg once daily. The patient also used approximately ten tablets of acetaminophen with caffeine 500/50 mg, and xylometazoline 1 mg/ml on a daily basis, which she acquired over the counter. Until recently, she had overused bisacodyl for weight loss. The patient’s partner found her behaving abnormally. No signs of intentional intoxication were found. In the previous days she had no fever or illness. At physical examination the patient was confused and disoriented in time and place. Also, she spoke with slurred speech. Her blood pressure was 160/112 mmHg, pulse rate 110 beats/min, temperature 36.7 °C and oxygen saturation was 95% at ambient air. She had dilated pupils, a dry tongue, red skin, and urinary retention of more than 1 litre. The Glasgow Coma Score was E4M6V3 and the patient was suspected to have visual hallucinations, since she was talking to imaginary people. Further neurological examination was unremarkable.

What was known on this topic?
Intentional or accidental intoxications with antihistamines can cause an anticholinergic toxidrome.

What does this add?
This case is a reminder of an important clinical lesson in recognition of an anticholinergic toxidrome. Also, this case illustrates that an appropriate diagnostic work-up and good collaboration between the physician and hospital pharmacist is important and leads to the proper diagnosis and treatment for your patient.
Clonidine may be an equal and cheaper alternative for dexmedetomidine, but to our knowledge, it is not currently form the sixth most commonly reported drugs and the frequency of antihistamine overdose is increasing. Treatment of antihistamine overdose is mainly supportive and consists of intravenous fluids and urinary catheterisation, and in some cases, gastrointestinal decontamination and administration of activated charcoal in combination with a laxative. Gastrointestinal decontamination is appropriate within two hours of ingestion. Severe agitation and seizures should be treated with benzodiazepines. Physostigmine, a short-acting anticholinesterase with a half-life of approximately 15 minutes, is the treatment of choice in case of a central anticholinergic syndrome. Clonidine may be an equal and cheaper alternative for dexmedetomidine, but to our knowledge, it has not been described before. For our patient, we chose supportive care with fluids. Because the causative agent was unclear at the moment of presentation, no further treatment was given. Gastrointestinal decontamination was contraindicated because of the altered mental state of our patient. Besides, the time of ingestion was unclear. Agitation was mild and therefore the use of benzodiazepines was not necessary.

In our patient, the screening for drugs of abuse, including opiates, was negative and serum venlafaxine concentrations were low. After close collaboration with the patient’s physician and the hospital pharmacist, we decided to perform further testing with LC-MS (MRM and full-scan MS data) because proving an intoxication would have consequences for the further follow-up and psychiatric treatment of our patient. Additional testing should be considered per individual case. LC-MS revealed not only promethazine, but also high concentrations of tramadol. Tramadol does not have anticholinergic effects itself, but can lead to depression of the central nerve system and therefore probably contributed to the clinical presentation in this case. Tramadol is not detected by the general screening for opioids (the immunoassay analyser Architect Abbott; a particle enhanced turbidimetric inhibition assay).
immunoassay). The intoxication was without long-term physical harm for the patient, but the diagnosis led to referral for psychiatric counselling.

In conclusion, we present a patient with an anticholinergic toxidrome, and where thorough additional diagnostic testing revealed the causative agent and led to additional psychiatric treatment of the patient. This case illustrates the importance of knowledge of toxidromes, and the value of good collaboration between physicians and hospital pharmacists for patient care.

DISCLOSURES

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REFERENCES