CASE REPORT

An interesting case of opium tea toxicity

Chitsa Seyani,¹ Peregrine Green,² Lisa Daniel,² Amanda Pegden²¹Great Western Hospital, Swindon, UK²Great Western Hospitals NHS Foundation Trust, Swindon, UK

Correspondence to
Dr Chitsa Seyani,
chitsas@doctors.org.uk

Accepted 7 April 2017

SUMMARY

We present an unusual cause of respiratory arrest resulting from sole ingestion of home-brewed opium tea. A 64-year-old woman was found unresponsive and in respiratory arrest by a first responder. There were no obvious signs of regular recreational drug use. On presentation to the local district general hospital, the patient was in extremis, with severe physiological and biochemical derangements. A naloxone infusion was commenced and she later made a good recovery. It was subsequently discovered that she had brewed opium tea from opium buds she had picked from a nearby commercial poppy farm, a practice she had learnt while in Afghanistan.

BACKGROUND

This unusual presentation serves as a good learning tool for front-line clinicians who come into contact with patients presenting with coma of unknown origin.

CASE PRESENTATION

At 03:00 on a night in August, a barking dog alerted a first responder to a 64-year-old woman who was slumped and unresponsive in her car. The car engine was still running.

The ambulance crew found the following on initial assessment: patient was in respiratory arrest, a blood glucose of 26.6 mmol/L, pupil size of 2 bilaterally, hypothermic with a temperature of 35°C. Other observations were within acceptable limits.

Observations of the environment made by the ambulance crew noted that there was no drug-related paraphernalia on her person or signs of regular recreational drug use, and the patient's car was filled with gardening tools. The patient also showed signs of recent gardening activity including soiled hands and muddy gardening boots.

Her airway was secured with a supraglottic airway device (SGA) and she was successfully ventilated. Intravenous access was gained and an initial dose of 400 µg of naloxone was given. The patient was noted to make some initial respiratory effort with a respiratory rate of 5 breaths/min, and her pupils were noted to recover to size 4 bilaterally approximately 40 min post administration of naloxone. Her breathing was supported as she was transferred to hospital.

On arrival to the local district general hospital, she was hypothermic and hyperglycaemic, oxygen saturations were unrecordable and a 12-lead ECG showed atrial fibrillation with a fast ventricular

response. An initial venous blood gas revealed a mixed metabolic acidosis: pH 7.07, Pco₂ 11, lactate 4.5, base excess -5.9 and bicarbonate 17.7.

The patient was resuscitated with intravenous fluids, treated according to the local protocol for sepsis of unknown origin and started on an insulin sliding scale. A CT scan of her brain did not show any causative intracranial pathology. Her Glasgow Coma Scale (GCS) and respiratory effort improved to a degree in the emergency department, and her supraglottic airway was removed as she began not to tolerate the SGA device. She was started on non-invasive ventilation due to her persistently high Pco₂.

However, she subsequently deteriorated again, dropping her GCS and her respiratory rate. The intensive care unit (ICU) registrar attended to the patient at the request of the ED registrar. The ICU registrar on review of the patient was increasingly concerned that the patient was increasingly becoming apnoeic and this was a contraindication to non-invasive ventilation.

On review of the history with the ambulance crew and ED registrar, a further bolus of naloxone was given. This led to the marked improvement in her respiratory rate. She was then commenced on a naloxone infusion after the second bolus of naloxone. With this, her condition improved significantly over the next 36 hours, with correction of the mixed metabolic acidosis, hyperglycaemia and atrial fibrillation.

OUTCOME AND FOLLOW-UP

After recovery, a prior history of heroin abuse was gained from the patient. The development of skin discolouration to her toe had caused the patient to become anxious as she had a history of melanoma. To alleviate her anxiety, she consumed opium tea with a considerable amount of sugar. She had picked the opium buds from a nearby commercial opium farm. She then brewed tea from the buds, a practice she had learnt while in Afghanistan. Opium tea is very bitter which explained the large amount of sugar she consumed with it and probably her hyperglycaemia on admission.

She was discharged home after a 2-day admission with advice to desist from further opium tea consumption. An outpatient 24-hour Holter examination was requested to rule out paroxysmal atrial fibrillation.

DISCUSSION

The effects and use of opium from the poppy plant *Papaver somniferum* have been known and documented from as far back as ancient Egypt. *P. somniferum* contains a complex of alkaloids which

CrossMark

To cite: Seyani C, Green P, Daniel L, et al. *BMJ Case Rep* Published Online First: [please include Day Month Year]. doi:10.1136/bcr-2016-218971

include morphine, codeine and thebaine, as well as other naturally occurring compounds.¹

These can lead to respiratory depression, euphoria, sedation and drug dependence, the effects which are mainly mediated via the mu receptor.²

Opium plants have varying concentrations of naturally occurring opioids and people seeking the effects of euphoria and anxiety place themselves at very serious risk, particularly when they are opioid naive.³ Prior heroin usage means that a person may often overestimate the amount of opium that they can tolerate as they base this on previous habits.

The approach to management of patients presenting with unclear causes to their coma should always be in the well-established 'ABCDE' approach.

Early administration of naloxone, a mu receptor antagonist to reverse the effects of opioid toxicity, is recommended in cases of severe respiratory depression of unknown origin. Intensive care review is important.⁴

Learning points

- ▶ Always approach the patient presenting with coma in the well-established 'ABCDE' approach.
- ▶ During the assessment of an unconscious patient, consider opioid toxicity from other sources in relatively low-risk individuals.
- ▶ Other compounds also occur naturally in the opium pods that may be potentially toxic.
- ▶ Appreciate that death from ingestion of opium tea can occur because of the varying concentrations of the natural alkaloids.
- ▶ Always challenge diagnoses and gain collateral histories where available to allow a re-evaluation of the underlying cause of clinical presentation.

There have been reports of opium-related deaths in high-risk individuals.^{5,6} However, after an extensive literature review, we believe this to be the first case presentation of severe opioid toxicity from sole ingestion of opium tea in a relatively low-risk individual. This case, therefore, represents a unique perspective in the diagnosis and management of acute opioid toxicity in a low-risk patient with no obvious history of drug abuse.

This case was clinically challenging due to the presentation which was very unusual, as well as the significant biochemical and physiological derangements observed.

It serves as a learning tool and reminder for front-line clinicians to always consider other underlying causes of common acute presentations.

Contributors CS: Drafting the article and literature research. AP, PG and LD: Critical appraisal of the manuscript, literature review and manuscript revision. AP, PG, LD and CS all read and approved the final manuscript.

Competing interests None declared.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

© BMJ Publishing Group Ltd (unless otherwise stated in the text of the article) 2017. All rights reserved. No commercial use is permitted unless otherwise expressly granted.

REFERENCES

- 1 Beaudoin GA, Facchini PJ. Benzylisoquinoline alkaloid biosynthesis in opium poppy. *Planta* 2014;240:19–32.
- 2 Trang T, Al-Hasani R, Salvemini D, *et al.* Pain and poppies: the good, the bad, and the ugly of opioid analgesics. *J Neurosci* 2015;35:13879–88.
- 3 Bailey K, Richards-Waugh L, Clay D, *et al.* Fatality involving the ingestion of phenazepam and poppy seed tea. *J Anal Toxicol* 2010;34:527–32.
- 4 Toxbase National Poisons Information Service. Papaver Somniferum (June 2015). <https://www.toxbase.org/Poisons-Index-A-Z/P-Products/Papaver-somniferum/> (accessed Dec 2016).
- 5 Martinez MA, Ballesteros S, Almaraz E, *et al.* Death in a legal poppy field in Spain [abstract]. *Forensic Sci Int* 2016;265:34–40.
- 6 Steentoft A, Kaa E, Worm K. Fatal intoxications in Denmark following intake of morphine from opium poppies [abstract]. *Z Rechtsmed* 1988;101:197–204.

Copyright 2017 BMJ Publishing Group. All rights reserved. For permission to reuse any of this content visit <http://group.bmj.com/group/rights-licensing/permissions>.
BMJ Case Report Fellows may re-use this article for personal use and teaching without any further permission.

Become a Fellow of BMJ Case Reports today and you can:

- ▶ Submit as many cases as you like
- ▶ Enjoy fast sympathetic peer review and rapid publication of accepted articles
- ▶ Access all the published articles
- ▶ Re-use any of the published material for personal use and teaching without further permission

For information on Institutional Fellowships contact consortiasales@bmjgroup.com

Visit casereports.bmj.com for more articles like this and to become a Fellow