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Case report

[Translated article] Abstinence syndrome following ingestion of poppy seed tea: A case report

Síndrome de abstinencia por consumo de té de semillas de adormidera: caso clínico

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Introduction

Processed poppy seeds (*Papaver somniferum* L.) are used for culinary purposes worldwide. However, unprocessed poppy seeds may contain varying concentrations of morphine, codeine, and thebaine, and be used to prepare beverages with psychoactive properties.[1,2] The literature describes cases of dependence and toxicity associated with the consumption of poppy seed infusions.[2–5]

We present the management of a patient with pulmonary tuberculosis who had an incidental finding of withdrawal syndrome, highlighting the importance of reconciling medication, botanicals, and foods.

Case description

A 32-year-old Indian man living in Spain, with a language barrier, no known medical history, and no habitual medication. Of note, the patient reported consuming 5–6 units of alcohol per day and denied the use of other drugs (no toxicity test was performed). The patient had a 2-week history of cough with hemoptotic sputum, progressive dyspnea, bilateral pleuritic chest pain, and shivering, accompanied by progressive deterioration of general health and associated constitutional symptoms (1.70 m, 48 kg), with the remainder of the examination being normal.

On arrival, he was hemodynamically stable, with the following findings (Table 1): physical examination revealed bilateral rhonchi without signs of increased respiratory effort and with painful hepatomegaly. Viral PCR and antigenuria tests were negative. Blood (subsequently negative) and sputum cultures were obtained. Antibiotic coverage was initiated with meropenem (1 g/8 h) and amikacin (1000 mg in a single dose). Subsequently, the sputum tested positive on the Ziehl-Neelsen test, so treatment was started with isoniazid (250 mg/24 h), rifampicin (600 mg/24 h), pyrazinamide (1000 mg/24 h), and intravenous ethambutol (800 mg/24 h).

The clinical picture was acute respiratory failure due to likely advanced-stage tuberculous bronchopneumonia, with extrapulmonary involvement (later ruled out by CT scan), and suspected respiratory superinfection.

After one day of admission, the patient developed tachycardia (HR >150) and tachypnea (RR 27), with sustained blood pressure and fever, despite the improvement in acute phase reactants. He also had profuse sweating, disorientation, piloerection, shortness of breath, bilious vomiting, and diarrhea. He was admitted to the intermediate respiratory care unit, where high-flow oxygen therapy was initiated.

The patient's relatives were interviewed and reported that he had no toxic habits, did not take any regular medication, and only consumed daily infusions. Thanks to the photographs provided, it was determined that the infusions were made from poppy seeds. A literature search in Pubmed (using the terms “poppy tea” and “poppy seed”) identified articles[1–5] supporting the possibility of withdrawal symptoms.

Withdrawal symptoms usually begin at 6–12 h and peak at 36–72 h.[6] However, the use of an enzyme inducer such as rifampicin would explain the rapid evolution of the picture.

In view of these findings, the impossibility of using methadone (due to the lack of an oral route), and the marked interaction with rifampicin, subcutaneous morphine (2.5 mg/12 h) was initiated. After 12 h, the patient showed clinical improvement, with resolution of tachycardia (HR 115), no signs of increased respiratory effort, and normal breathing (RR 16).

We decided to continue treatment with the same dose of morphine until discharge, given the difficulty of follow-up by the psychiatric service for subsequent withdrawal management with methadone, the interaction with antituberculosis treatment, and the good response to morphine.

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Table 1
Abnormal clinical, blood, and radiological parameters on arrival.

Parameter or test	Value or result
Temperature	39 °C
HR	140 bpm
SaO_2	94%
RR	25 breaths/min
CRP	21.6 mg/dL (0–0.5)
Procalcitonin	12.4 ng/mL (0–0.5)
Aspartate aminotransferase	461 U/L (0–38)
Alanine aminotransferase	210 U/L (10–41)
Alkaline phosphatase	136 U/L (40–129)
Gamma-glutamyl transpeptidase	76 U/L (8–61)
Conjugated bilirubin	0.7 mg/dL (0.1–0.25)
Blood gas	Compensated respiratory alkalosis
Chest X-ray	Bilateral pulmonary infiltrates

HR, heart rate; RR, respiratory rate; CRP, C-reactive protein; SaO_2, baseline oxygen saturation; bpm, beats per minute.

Discussion

In Spain, the sale of opium poppies to the public is prohibited due to their toxicity.[7] Schedule 1 narcotics include morphine, which is found in opium (concentrated poppy juice) and poppy straw, which includes all parts of the plant after harvest, except the seeds.[8,9] The seeds are therefore excluded from this classification and are offered for sale, for example, on various websites. Various concentrations of morphine, codeine, and thebaine have been measured in unprocessed seed infusions, with one study reporting concentrations from seeds of <1–2.788 mg/kg, <1–247.6 mg, and <1–124 mg, respectively, depending on the supplier and extraction method.

The literature has described cases of poppy seed infusion abuse that required medical attention for detoxification.[2–4] There have also been reports of death[1] and neonatal abstinence syndrome following maternal ingestion.[5] In most cases, morphine levels were measured in the blood or urine of the patients, or in the infusion itself. The main treatment options used were buprenorphine, methadone, and oral morphine, with some patients requiring intravenous or intramuscular naloxone as emergency treatment.

However, in the case described, morphine was not measured in biological fluids, nor was it possible to place the patient in a detoxification circuit due to a lack of knowledge of his habits and his commitment to detoxification.

The Spanish Early Warning System (SEAT) is a national mechanism for the annual identification of new psychoactive substances and the dissemination of information on the consequences of their use and abuse. These substances include botanicals and extracts.[10] The cases described suggest that it may be necessary to study poppy seed infusions as a possible source of narcotics and, consequently, implement the corresponding regulatory measures to control their production and sale.

Conclusion

Unlike other reported cases, the reason for this patient's admission was not intoxication or interest in detoxification, but rather an incidental finding, which was also a confounding element in that it could have been interpreted as a worsening of the patient's condition due to a lack of effectiveness or an adverse reaction to the established treatment.

This situation highlights the importance of a complete and early pharmacological anamnesis, including not only the usual medications but also controlled drugs, phytotherapy, and supplements.

Ethical responsibilities

All ethical responsibilities have been met, in particular the anonymization of the case. The authors obtained authorization or informed consent from all those involved in this case.

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Responsibilities and ceding of rights

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CRediT authorship contribution statement

Teresa Rovira Medina: Writing – review & editing, Writing – original draft, Validation, Supervision, Methodology, Investigation, Formal analysis, Conceptualization. **Pablo Yanes Sánchez:** Writing – review & editing, Writing – original draft, Validation, Supervision, Methodology, Formal analysis, Conceptualization. **Miriam Bullich Ramon:** Writing – review & editing, Writing – original draft, Validation, Supervision, Methodology, Formal analysis, Data curation. **Maria Oliver Cervelló:** Writing – review & editing, Writing – original draft, Validation, Methodology, Formal analysis. **Mònica Gómez Valent:** Writing – review & editing, Writing – original draft, Validation, Methodology.

Declaration of competing interest

None declared.

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