JSCR Journal of Surgical Case Reports

Journal of Surgical Case Reports, 2019;11, 1–2

doi: 10.1093/jscr/rjz309
Case Report

CASE REPORT

Complicated postoperative course secondary to kratom withdrawal: a case report

Michael Kucharik[1,*], Anupam Gupta[1,2], Peter Averkiou[1], George R. Luck[1,2], and Andrew S. Ross[1,2]

[1]Florida Atlantic University Charles E. Schmidt College of Medicine, 777 Glades Rd, Boca Raton, FL 33431, USA, and [2]Boca Raton Regional Hospital, 800 Meadows Rd, Boca Raton, FL 33486, USA

*Correspondence address. MS3 at Florida Atlantic University, Charles E. Schmidt College of Medicine, 777 Glades Rd, Boca Raton, FL 33431, USA. Tel: + 201-519-4014; Fax: + 239-776-4129; E-mail: mkucharik2016@health.fau.edu

Abstract

We herein report a case of a 55-year-old female with an unusual case of post-operative kratom withdrawal. The patient's withdrawal symptoms subsequently contributed to complications and admission to the intensive care unit. Features of this case are discussed, alongside the management of kratom withdrawal and the implications of supplementation with unregulated herbal medications.

INTRODUCTION

Nearly 20% of adults in the USA used an herbal medicine or supplement in the past year [1]. One specific herbal medicine, kratom, has become increasingly popular within the USA for its supposed alleviation of anxiety and chronic pain [2]. We would like to report a patient whose postoperative course was prolonged secondary to withdrawal from kratom.

CASE PRESENTATION

A 55-year-old female with a history of chronic back pain, anxiety and depression was admitted to the hospital for an elective subtotal colectomy and ileorectal anastomosis for colonic inertia. On admission, her medications were documented: acetaminophen/oxycodone (5/325 1 PO q6h prn), escitalopram (10 mg 1 PO qd), cyclobenzaprine (10 mg 1 PO tid), bupropion (100 mg 1 PO qd) and omeprazole (40 mg PO bid). The patient admitted to drinking 1–2 drinks of alcohol weekly and denied any history of drug abuse. The surgery was uneventful, and the patient was started on home medications and a clear liquid diet within 24 hours of the surgery. Intravenous hydromorphone (1 dose—0.5 mg) and oral tramadol were used for pain control within the first 48 hours following the operation.

On postoperative day 2, the patient became nauseous and vomited approximately 500 cc of bilious liquid. Over the next 24 hours, the patient became confused, agitated and developed auditory and visual hallucinations. She stated, 'Men are talking to me from my IV and are trying to kill me'. Her physical examination and lab studies remained normal. Since drug and/or alcohol withdrawal was suspected, the patient's husband was contacted to review her medication and social history. After some prodding, the husband revealed that in addition to her prescribed medications, the patient, in an attempt to alleviate her pain and anxiety, for many years, was taking an over-the-counter preparation called kratom (5–10 g, oral daily).

On postoperative Day 4, the patient became febrile (40.1 °C), tachycardic (155 beats/min) and hypotensive (80 mm Hg/undetected). The abdominal exam remained unremarkable. The patient was transferred to the ICU for presumed septic shock. Diagnostic studies revealed right basal pulmonary infiltrates

Received: September 8, 2019. **Accepted:** October 17, 2019

most consistent with aspiration pneumonia. The patient was stabilized and started on IV antibiotics. She was transferred from the ICU within 24 hours and subsequently discharged from the hospital in good health on Day 12.

DISCUSSION

Mitragyna speciosa, commonly referred to as kratom, is a tropical plant native to Southeast Asia, where it has been used as a form of alternative medicine for anxiety and chronic pain since the early nineteenth century [3]. At low doses (1–5 g), mitragynine, the active compound in kratom, can provide the user with a stimulant effect, and at high doses (5–15 g) act as a μ-opioid agonist [4,5]. Adverse effects include agitation, constipation, dry mouth and withdrawal symptoms such as nausea, vomiting and psychosis [6]. Despite adverse effects and its association with 152 overdose deaths over the course of 2016 and 2017, kratom, or similar compounds that include mitragynine, are readily available for online purchase [7]. There are no FDA-approved uses for kratom, and the FDA has recently submitted warning letters to distributors of kratom for illegally making claims about their ability to treat or cure opioid addiction and withdrawal symptoms.

When our patient became nauseous and vomited, we initially suspected that her symptoms were secondary to an ileus or obstruction. Although an ileus may have contributed to the patient's emesis, our working diagnosis did not explain the patient's hallucinations. Our patient was given lorazepam (1 g, IV push) for this episode of agitation, since the timing and symptoms were congruent with alcohol or benzodiazepine withdrawal [8].

Once we ascertained that the patient was taking excessive amounts of kratom, our management became supportive in the form of haloperidol (5 mg, intramuscular) for agitation. Although there have been anecdotal reports of kratom withdrawal management with buprenorphine, in the acute setting, standard management is largely supportive in the form of IV hydration and treatment of symptoms as they arise [9]. We were unable to find any standard guidelines for treating kratom withdrawal.

If our patient had disclosed her kratom use, we might have been able to have prevented the post-operative complications by protecting the patient's airway. Failure to report herbal medicines and supplements is a serious issue in the healthcare industry. One study reported that 42.7% of patients who consume herbal medicines or supplements do not report their usage to their healthcare providers [10]. Among those, 46% cited that it was not necessary for their physician to know, while 57% claimed that they were never asked [10].

Kratom is one of many over-the-counter herbal medicines and supplements, which has been associated with serious, potentially fatal adverse effects [1]. The Department of Health and Human Services has recommended that it is classified as a Schedule I Drug (equivalent to Heroin/LSD). Since producers of these over-the-counter products are not required to provide efficacy, safety or quality prior to marketing or post-marketing adverse events to the FDA, the burden lies with physicians to be well educated and determine, as part of taking a complete history, if their patients are taking supplements and adjust patient care accordingly [1].

Over-the-counter and herbal supplements, such as kratom, can often be addictive and result in withdrawal effects, which can complicate a post-operative course, leading to a prolonged hospitalization and increased healthcare costs. Because of the increasing popularity of kratom, physicians need to become familiar with the pharmacology and potential adverse effects.

CONFLICT OF INTEREST STATEMENT

None declared.

SOURCES OF FINANCIAL SUPPORT

None.

REFERENCES

1. Saper R. Overview of Herbal Medicine and Dietary Supplements in 2019. https://www.uptodate.com/contents/overview-of-herbal-medicine-and-dietary-supplements Post TW, ed. UpToDate. Waltham, MA: UpToDate Inc. Accessed July 07, 2019.
2. Post S, Spiller HA, Chounthirath T, Smith GA. Kratom exposures reported to United States poison control centers: 2011–2017. *Clin Toxicol* 2019;**57**:1–8.
3. Hassan Z, Muzaimi M, Navaratnam V, Yusoff NH, Suhaimi FW, Vadivelu R, et al. From kratom to mitragynine and its derivatives: physiological and behavioral effects related to use, abuse, and addiction. *Neurosci Biobehav Rev* 2013;**37**:138–51.
4. Gottlieb S. Statement from FDA Commissioner Scott Gottlieb, M.D., on the agency's scientific evidence on the presence of opioid compounds in kratom, underscoring its potential for abuse. *US FDA* 2018.
5. Cinosi E, Martinotti G, Pierluigi S, Darshan S, Demetrovics Z, Roman-Urrestarazu A, et al. Following "the roots" of Kratom (*Mitragyna speciosa*): The evolution of an enhancer from a traditional use to increase work and productivity in Southeast Asia to a recreational psychoactive drug in Western countries. *Biomed Res Int* 2015;**2015**:1–11.
6. Rech M, Donahey E, Cappiello Dziedzic J, Oh L, Greenhalgh E. New drugs of abuse. *Pharmacotherapy* 2015;**35**:189–97.
7. O'Malley Olsen E, O'Donnell J, Mattson C, Schier J, Wilson N. Notes from the field: unintentional drug overdose deaths with kratom detected—27 states, July 2016–December 2017. Morbidity and mortality weekly report rep. *US Centers for Disease Control and Prevention* 2019;**68**:326–7.
8. Hoffman R, Weinhouse G. Management of moderate and severe alcohol withdrawal syndromes in 2019. https://www.uptodate.com/contents/management-of-moderate-and-severe-alcohol-withdrawal-syndromes Post TW, ed. UpToDate. Waltham, MA: UpToDate Inc. Accessed July 17, 2019.
9. Buresh M. Treatment of Kratom dependence with buprenorphine-naloxone maintenance. *J Addict Med* 2018;**12**:481–3.
10. Jou J, Johnson. Nondisclosure of complementary and alternative medicine use to primary care physicians: Findings from the 2012 National Health Interview Survey. *JAMA Intern Med* 2016;**176**:545.