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Case Report **OPEN ACCESS**

The use of opioid in treating a patient with kratom use disorder: A case report

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ABSTRACT

Kratom is a botanical plant product that is used around the world, particularly in Southeast Asia. It is believed that it has potential benefits as a painkiller and for relieving fatigue. Specifically, kratom can produce an opioid effect, which makes it addictive. We report a 26-year-old man who presented to the clinic for treatment of kratom use disorder. He was willing to be treated because he could no longer withstand the withdrawal effect and the financial cost of his addiction. Our team successfully initiated treatment using buprenorphine-naloxone (suboxone) in pill form to treat his kratom use disorder. The patient also received non-pharmacological treatment such as psychoeducation, psychotherapy, and motivational interviews. He was successfully treated with suboxone and within a week he was kratom free and happy.

Keywords: kratom, kratom use disorder, suboxone, addiction

INTRODUCTION

Mitragyna speciosa, also known as kratom, is a plant with distinct psychoactive properties [1]. The active components in kratom are mitragynine and 7-hydroxy-mitragynine. These are the alkaloids that are responsible for the psychoactive effects [2]. Kratom possesses physiological effects that are identical to those of opioids, which are pain alleviation, euphoria, and stimulant effects. Since Kratom has an opiate-like character, the risks of dependence and addiction are potentially high [1]. A cross-sectional survey done in the peninsular states of Malaysia showed that regular kratom users will develop drug dependence with profound withdrawal symptoms and subsequently drug cravings [2]. Thus, Malaysia has banned this substance [1].

In the past, kratom was used to cure a variety of illnesses, such as opiate addiction, withdrawal symptoms, and to wean off dependence [1]. Kratom's effects are dose dependent. However, in low doses (below 5 g), it causes a stimulatory effect, thus reducing fatigue. If consumed at quantities between 5 g and 15 g, usually it reduces opioid-withdrawal symptoms, causes euphoria, acts as an analgesia, and causes constipation. Besides these, Kratom causes a sedative effect when consumed at doses higher than 15 g [3].

Recent case studies on the use of buprenorphine/naloxone (suboxone) to treat kratom withdrawal or overdose have been reported [4, 5]. Mitragynine and 7-hydroxy-mitragynine, the two main active alkaloids in kratom have been demonstrated to be μ-opioid receptors agonists. Since buprenorphine is a partial opioid receptor agonist and naloxone is a potent opioid receptor antagonist, co-administration of these drugs can be utilized to treat kratom use disorder [6]. In the following case report, we present a case of kratom use disorder, which was managed in an addiction clinic by using suboxone. The patient is undergoing recovery.

CASE PRESENTATION

Mr. SH, a 26-year-old Malay man who works as a kitchen assistant presented with a voluntary request for treatment of his kratom addiction. He was in good health until four years ago when he was introduced to kratom by his friend. At that time, he had a fever and was offered kratom juice to drink. That was his first time taking it, and to his surprise, he felt fresh and energized and became more focused.

Since then, Mr. SH started to drink kratom juice, sharing it with his friends. They bought 1.5 liters of juice and drank four to five sips each thrice a week. After four months of taking it, he had to increase the intake. Subsequently, the 1.5 liters of kratom juice could only last a day, which cost him RM20. Later, the amount increased to three liters, which only satisfied his craving for two and a half days. To reduce the bitter taste of the kratom juice, he mixed it with cough syrup and carbonated drink. He had cravings and tolerance to kratom and began to develop withdrawal symptoms such as body aches, a stuffed nose, sleep disturbance and body tremors if he tried to stop or reduce the intake.

This substance abuse greatly troubled him. Since he became hooked on the habit, Mr. SH admitted to having fewer interactions with his family members and friends. Previously, he had an outgoing personality and was friendly. He is single. His family noticed the changes in his behavior. They constantly advised him and tried to persuade him to stop taking kratom juice. His work was also being affected. He became dependent on kratom juice to work. In the past four years of consuming kratom, he has had to change between several odd jobs. Currently, he is working as a kitchen assistant in a restaurant.

Most of his salary was used to buy kratom. He also borrowed money from his friends and his boss too. Aware of his worsening addiction problem, he tried to stop taking it for two weeks by himself. However, because he was unable to withstand the withdrawal symptoms, he failed. Being good supporters, his employer and colleagues agreed for Mr. SH to take leave to go for his addiction treatment.

Physical examination and mental state examination were unremarkable. During his interview, Mr. SH was calm, cooperative and forthcoming with a euthymic mood. There was no presence of perceptual disturbance or any thought disorder. He had good insight and judgement. His blood investigations such as full blood count, renal profile, liver function test, glucose level and fasting lipid profile were normal. His urine drug test showed negative results for morphine, cannabis, amphetamine and benzodiazepine.

Mr. SH was in the contemplation stage to stop taking kratom. He had already prepared himself by taking time off from his workplace and had informed his family members regarding his plan. Treatment options were discussed, and he opted for outpatient detoxification. Since suboxone was not readily available in our clinic, he agreed to buy suboxone. He was advised not to drink kratom overnight before starting this suboxone regime and to take the first dose once he started to develop withdrawal symptoms. Suboxone regime was started for him: 2 mg on day 1, 4 mg on day 2, 6 mg on day 3, 8 mg on day 4, 6 mg on day 5, 4 mg on day 6, and 2 mg on day 7 then off.

Along with suboxone, other non-pharmacological management was also given to him including psychoeducation on what is kratom, supportive psychotherapy, advice for sleep hygiene and motivational interviews. Then, he was reviewed after one week of therapy. This time, he was successfully able to wean off kratom without significant withdrawal symptoms and he was very happy with the result. Subsequently, during follow-up after two weeks post-treatment, the patient still had no relapse and was kratom-free. However, the patient defaulted to the next scheduled follow-up.

DISCUSSION

In this patient's case, he was experiencing kratom use disorder as he had been consuming kratom daily for four years. He had developed tolerance to the substance, evidence of an increasing amount of kratom intake over a longer period that was intended. Mr. SH experienced withdrawal symptoms upon trying to reduce and stop taking kratom. He also had unsuccessfully tried to cut down or control his use of kratom. He spent a great deal of time obtaining, using and recovering from the effects of kratom. He was also suffering from social, family and work problems due to kratom intake.

With regard to the diagnostic and statistical manual of mental disorders, fifth edition (DSM-V) on diagnostic criteria for substance use disorder, Mr. SH satisfied over two criteria over the past 12 months, which was enough to qualify him for kratom use disorder. He had cravings to use the substance, social activities were given up because of use, a great deal of time spent obtaining and using the substance and was taking larger amounts or over a longer time than was originally intended. He had developed tolerance, and withdrawal. By fulfilling six points of the criteria, the severity of his disorder could be specified as severe [7].

Typically, patients with chronic use of kratom present with symptoms mimicking opioid withdrawal with discontinuation of kratom. Therefore, it was not surprising that Mr. SH developed withdrawal symptoms while trying to stop his use of kratom without any medication. Symptoms may come after 12 to 24 hours of last use and last for up to seven days. These symptoms can be divided into physiological and psychological withdrawal symptoms. Factors that determine the intensity of the withdrawal symptoms are the amount of intake, duration and frequency of use of the juice [8].

The symptoms that can be experienced by a patient are insomnia, restlessness, irritability, fatigue, anxiety, mood disturbances and hallucinations. Physiological symptoms include mydriasis, lacrimation, rhinorrhea, nausea, sweating, chills, tremors, diarrhea, muscle and body aches [9]. Fortunately, when he was using suboxone, Mr. SH did not complain of ay withdrawal symptoms, and he succeeded in going through the treatment.

There are presently no exact guidelines on managing kratom withdrawal. The approach that has been used is actually managing the withdrawal with symptomatic treatment. There are several case reports that mentioned the use of gabapentin and clonidine, dihydrocodeine and lofexidine [8] and even lorazepam [10] in the treatment of kratom withdrawal. In this case, suboxone was used; it contains buprenorphine, which is a potent partial opioid receptor agonist, whereas mitragynine, a component in kratom is also a partial agonist for μ-opioid receptors [11].

There are also other case reports mentioning success with the use of buprenorphine for kratom withdrawal [8]. Considering it has a similar partial agonist mechanism, it is possible that buprenorphine is a good substitute for kratom. This likely accounts for the clinical effects of buprenorphine-naloxone in this case of kratom dependence. This also explains why Mr. SH was successfully able to wean off kratom without any withdrawal symptoms.

This case report suggests a good clinical response in a patient with kratom use disorder who was treated with suboxone. The patient is still at risk of relapse; however, it can be concluded that he has a good prognosis. This is because Mr. SH has good premorbid functioning, good family support and no history of polysubstance use.

The aims of the plan of management for him included managing the acute state of kratom withdrawal, dealing with severe kratom use disorder, rehabilitation and restoration of his social and occupational functions, maintenance of remission and relapse prevention.

CONCLUSIONS

Although this case report suggests that suboxone can be used as treatment for kratom use disorder, there are still no clinical trials that have analyzed suboxone treatments in people undergoing kratom withdrawal. This is the reason for the lack of guidelines to describe and guide the effective use of this treatment. Further research should be done in order to maximize the use of suboxone for treatment of kratom addiction since kratom usage is currently on the rise.

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Declaration of interest: No conflict of interest is declared by authors.

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