Kratom: 100% organic trouble

Dr Cosmina Cross (ST6 GAP/Forensic)
Dr Nicola Herod (consultant addiction psychiatry)

Change Grow Live

NHS Southern Health NHS Foundation Trust

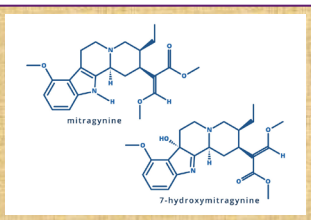
Background

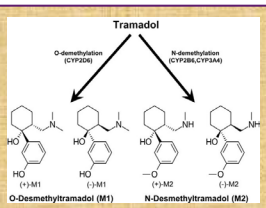
Kratom is an herbal product obtained from the leaves of *Mitragyna speciosa*, an evergreen tropical tree indigenous to Southeast Asia. It is usually sold in powdered form of varied colour from green to brown, depending on herbal amalgamations. Dried Kratom leaves are used in tea, smoked, powdered, pills, extracts, tinctures, even used intravenously.

Main chemical compounds, Mytraginine and 7-hydroxymitragynine, are strong alkaloids that act on the mu-opioid receptors. In small doses Kratom acts as a stimulant similar to caffeine, whereas in larger doses it exhibits opioid-like effects. The amount of active substance used is difficult to predict due to unknown concentrations of products and potential mixtures with dangerous compounds such as O-desmethyltramadol.

Ordinary urine drug screens will not detect Kratom.

There are worldwide concerns regarding Kratom misuse, its toxicology and rising death toll. In the United Kingdom, Kratom has been subjected to the Psychoactive Substances Act 2016.





Discussion

Initial assessment highlighted a Clinical Opiate Withdrawal Scale (COWS) score of 19 at 3hrs post last-ingestion. The urine drug screen was negative to all tested drugs. Mr X started treatment with Buprenorphine. He was followed-up by phone weekly for the first month, then seen in clinic at 3 months, and monitored by case worker fortnightly over the phone.

Subsequent monitoring of the withdrawal symptoms, both subjective and objective, using COWS demonstrated a positive response to Buprenorphine 6mg daily. He continued with maintenance dose of Buprenorphine 6mg daily, with optimal 24hrs cover.

Mr X remained abstinent at 4 months review and reported significant impact on wellbeing and family life.

Case report

Mr X, a 52-year-old man self-referred to the addiction clinic due to persistent requests by family members to seek specialist help regarding his use of Kratom. He started using it five years prior to presentation as a "healthy option" to the prescribed opioid medication for chronic back pain. He reported rapid escalation of amount use over a period of months. At the initial assessment he was consuming up to 30g of Kratom daily in four divided doses. He used it in tea and hot chocolate. He was spending up to £180 weekly, online orders from Germany with next day delivery by courier.

Mr X reported withdrawal symptoms up to four times a day in-between ingestion of Kratom doses. He was able to remain comfortable between 4-6 hours at a time. This interfered with his sleep, appetite, and ability to participate in family activities, although he continued with his musical career.

Conclusions

Support from the addiction services with opioid-replacement and psychosocial intervention is highly beneficial.

As Kratom is sold in unregulated and varied mixtures with other phytochemicals, uncertainty remains on its effects and noxious levels. Difficulty testing for its use poses additional challenges in managing treatment. It makes it a potential drug of choice for people on court ordered urine drug tests. Case reports of overdose and deaths highlight the risk this *100% Organic* product poses to life and wellbeing.

References

Psychoactive Substances Act 2016 c.2 Section 2(2)(3)

Arndt T, Claussen U, Güssregen B, Schröfel S, Stürzer B, Werle A, Wolf G. *Kratom alkaloids and O-desmethyltramadol in urine of a "Krypton" herbal mixture consumer.* Forensic Sci Int. 2011 May 20;208(1-3):47-52. doi: 10.1016/j.forsciint.2010.10.025. Epub 2010 Nov 26. PMID: 21112167

Corkery JM, Streete P, Claridge H, et al. Characteristics of deaths associated with kratom use. Journal of Psychopharmacology. 2019;33(9):1102-1123. doi:10.1177/0269881119862530

Department of Justice, Drug Enforcement Administration, Drug Facts: Kratom, online at: https://www.dea.gov/sites/default/files/2020-06/Kratom-2020_0.pdf

Diep J, Chin DT, Gupta S, Syed F, Xiong M, Cheng J. *Kratom, an Emerging Drug of Abuse: A Case Report of Overdose and Management of Withdrawal.* A A Pract. 2018 Apr 15;10(8):192-194 doi: 10.1213/XAA.0000000000000658. PMID: 29652682

European Monitoring Centre for Drugs and Drug Addiction, *Kratom Drug Profile*, online at: https://www.emcdda.europa.eu/publications/drug-profiles/kratom_en

Galbis-Reig D. *A Case Report of Kratom Addiction and Withdrawal.* WMJ. 2016 Feb;115(1):49-52; quiz 53. PMID: 27057581

PubChem, National Library of Medicine, National Center for Biotechnology Information – online at: https://pubchem.ncbi.nlm.nih.gov/

Graziano S, Orsolini L, Rotolo MC, Tittarelli R, Schifano F, Pichini S. *Herbal Highs: Review on Psychoactive Effects and Neuropharmacology*. Curr Neuropharmacol. 2017;15(5):750-761. doi:10.2174/1570159X14666161031144427

Lydecker AG, Zuckerman MD, Hack JBet al. (2017) *Intravenous kratom use in a patient with opioid dependence*. J Toxicol Pharmacol 1: 003

Stanciu C, Ahmed S, Hybki B, Penders T, Galbis-Reig D. *Pharmacotherapy for Management of 'Kratom Use Disorder': A Systematic Literature Review With Survey of Experts*. WMJ. 2021 Apr;120(1):54-61. PMID: 33974767

Warner, M.L., Kaufman, N.C., & Grundmann, O. (2015). *The pharmacology and toxicology of kratom: from traditional herb to drug of abuse.* International Journal of Legal Medicine, 130, 127-138

NHS Health Education England South East Working across Wessex