Approach to Perioperative Management of Chronic Kratom Dependence in a Patient Undergoing Anterior Cervical Discectomy and Fusion

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Background

- *Mitragyna speciosa,* or Kratom, is a botanical specimen containing alkaloids that function as partial mu-opioid receptor agonists.
- While utilized for self managed analgesia, chronic consumption may precipitate opioid-like tolerance, physical dependence, and withdrawals.
- These pharmacological properties introduce significant complexities during the perioperative period for chronic pain patients requiring surgical intervention.
- Kratom may further complicate perioperative pharmacotherapy through potential drug-drug interactions.
- The following report describes the perioperative analgesic considerations encountered in a patient with chronic kratom use scheduled for multilevel anterior cervical discectomy and fusion.



Figure 1: *Mitragyna speciosa,* known as Kratom

Case Presentation

- A 72-year-old male with a past medical history of hypertension, hyperlipidemia, chronic neck pain, chronic opioid use and daily kratom use was scheduled for a multilevel anterior cervical discectomy and fusion (ACDF).
- Given the patient's chronic exposure to both kratom and opioids the acute pain service was consulted for perioperative management of the patient's pain regimen.
- The patient's chronic analgesic use raised concerns for possible opioid tolerance, kratom associated withdrawal and the risk of inadequate postoperative analgesic control.
- A multimodal analgesic approach incorporating non-opioid analgesia and opioid tailored therapy was utilized to minimize opioid escalation and optimize this patient's perioperative pain course.
- Given the specific step-wise tailored analgesic approach, the patient's immediate post-operative pain was adequately controlled with a combination of oral opioids, intravenous NSAIDS, and intravenous opioids for breakthrough pain, allowing for the avoidance of the patient relying on a self-controlled analgesic pump.
- Utilizing this multimodal approach, breakthrough intravenous opioids were discontinued less than 10 hours postoperatively with the patient reporting adequate pain control.
- The patient was able to be discharged within 48 hours of surgical intervention on their home opioid regimen with no signs of kratom withdrawal due to this tailored approach.

Discussion

- This case underscores the distinct perioperative challenges to pain control associated with chronic kratom use in surgical patients.
- Given the potential for withdrawal, drug-drug interactions and opioid tolerance, a multimodal analgesic approach was favored over escalating doses of a single opioid.
- Multimodal analgesia targets multiple pain pathways at peripheral and central spinal levels, optimizing perioperative pain control while reducing singular reliance on opioid therapy.
- Currently published literature lacks standardized perioperative guidelines on optimizing analgesia in patients with chronic kratom use.
- Given the complexities of optimizing pain control in a patient with chronic kratom dependence, early identification is essential to facilitate individualized preoperative planning for analgesic control.

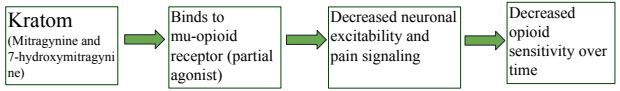


Figure 2: Pathway of Kratom creating opioid sensitivity

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