

Mississippi Toxicology Bulletin

VOLUME 4, ISSUE 2

FALL 2019

SPECIAL POINTS OF INTEREST:

- Toxicology Website
- What's the fuss about Kratom?
- Case Report:
Use only as Directed

New Toxicology Website

Our new toxicology website is full of information and resources for clinicians, nurses, and laboratory professionals. The online test menu provides descriptions of immunoassay, chromatographic, and mass spectrometry tests with cutoff limits and specimen requirements. A convenient fillable (and printable) request form makes the test request super easy. The new website also includes information on vaping, gateway drugs, drugs in the news, drug metabolism, drug detection times and links to addiction treatment centers. Visit our site at <http://ummc.edu/toxicology>

Visit us on the Web
[http://umc.edu/
Toxicology](http://umc.edu/Toxicology)

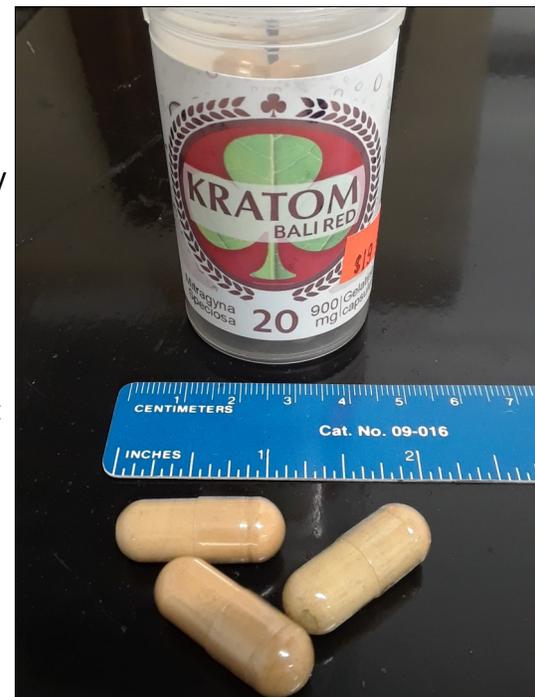
What's the fuss about Kratom?

by: Lakshmi Nair, M.D.

Kratom is an herbal product obtained from leaves of *Mitragyna Speciosa*, a tropical evergreen tree native to Southeast Asia. Its leaves have been used by farmers and laborers for centuries to alleviate pain. Kratom leaves may be chewed, swallowed or brewed into tea. Large amounts of kratom can cause euphoria, and several Asian countries banned kratom use in 1946 due to its abuse potential. The primary alkaloids in kratom, mitragynine and 7-hydroxymitragynine are opioid agonists that activate the mu and delta opioid receptors.

Recently, kratom use has increased in the United States, a significant concern given the current opioid epidemic. While advocates argue that kratom offers relief of pain, depression and anxiety, the FDA officially labelled kratom as an opioid and recently issued a warning against its use due to the potential for addiction.

(continued)



Kratom capsules obtained for laboratory testing.

UMMC Analytical
Toxicology Lab
(601) 984-1614

7 am - 5 pm
Monday - Friday

After Hours
Operator
(601) 984-1000

Technologists are
always on call for
Emergencies

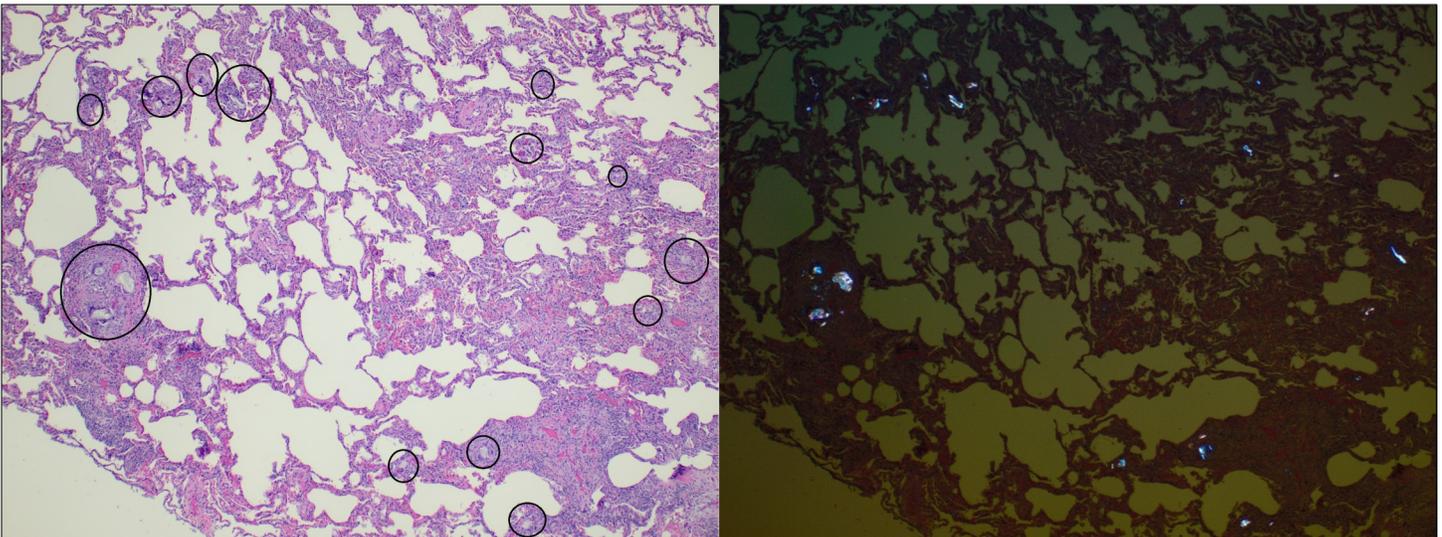
Kratom (continued)

The NIH, FDA and the Department of Health and Human Services (HHS) all support a ban on kratom. Kratom continues to be legal at the federal level but has been outlawed by many states and more than 30 counties in Mississippi. Kratom has recently become popular as a less expensive and easy alternative to medications prescribed for opioid withdrawal. The UMMC pain management service indicated some patients begin using kratom in order to “self-detox” from opioid addiction. However, several became dependent on kratom and were unable to stop due to significant withdrawal symptoms, which subsequently led to relapse. Some scientists argue that kratom may hold the key to treating chronic pain and could be a tool to combat opioid addiction. At this time, more research is needed to determine its therapeutic potential

Case Report: Use only as Directed

by: **Debbie Rigney Walley, M.D.**

A 37 y/o male with a history of type I diabetes, hypertension, and substance abuse presented to the emergency department with agonal breathing. The patient had been treated twice in the previous two years for dyspnea and pneumonia. Upon admission, chest x-rays showed scattered bilateral opacities, and respiratory cultures were positive for methicillin resistant *Staphylococcus aureus* (MRSA). The patient expired 5 days after admission. Autopsy findings were significant for pulmonary fibrosis, bilateral pneumonia, and multiple diffuse pulmonary foreign body granulomas. The foreign bodies were polarizable and stained with PAS-D, GMS, and Congo red - characteristics consistent with microcrystalline cellulose, a filler material used in the manufacture of many oral medications (tablets). While the fillers are safe for oral consumption, foreign body granulomas have been documented in the lungs of IV drug users who crush tablets and inject the material intravenously seeking a faster and/or heightened euphoria. Death in this patient was caused by pneumonia complicated by the pulmonary foreign body granulomas. The images below show a section of the decedent's lung with H&E stain and polarized light.



Above Left: Microscopic section of decedent's lung with H&E stain. Note foreign bodies (circled).

Above Right: Same section of decedent's lung visualized with polarized light.

The Mississippi Toxicology Bulletin is a semiannual newsletter published by the Analytical Toxicology Laboratory at the University of Mississippi Medical Center. Articles, reports or case studies for publication may be submitted to Dr. Patrick Kyle at pkyle@umc.edu.