



Ask Dr. Debbie...

Curiosity About Kava

By Debra A. Hill, MD

Dear Dr. Debbie,

Are there any adverse effects to drinking Kava over a long period of time? I knew of the ritual use by Fijian Islanders, but I am not aware of any of the side affects associated with this elixir.

**Thank You,
Joseph J. Monaco**

As physician I tend to be cautious when it comes to use of herbs as they can have a powerful impact on the body. Just because something is an herb or root or plant doesn't mean it is free of potential side effects. Many medications have their origins in plants--digoxin for example that is used to treat atrial fibrillation comes from the Digitalis Plant.

Kava is used medicinally, ceremonially, and recreationally much like alcohol is used. Everyone in general knows the effect of alcohol. Kava is not something that most people know much about in our culture.

I had been aware of the Center for Disease Control's article published in November 2002, regarding "Hepatic toxicity Possibly Associated with Kava-Containing Products—United States, Germany, and Switzerland, 1992-2002", but I wanted to know more, so I have done my own search of the literature on the risks of liver toxicity associated with the use of Kava. The CDC paper discusses 11 patients who used kava products and had liver failure and who later required liver

transplants. There are some authors in articles published subsequently who felt that these cases were not clearly linked to direct liver toxicity from kava. The CDC article can be viewed at: www.cdc.gov/mmwr/preview/mmwrhtml/mm5147a1.htm.

Background History on Kava:

Kava, or Piper methysticum is one of 2800 species in the Genus piper. Piper methysticum literally means, "intoxicating pepper." It is a cultivated form of kava and a descendent of the wild kava, Piper wichmannii. Piper methysticum



grows as a lush leafy green plant and it is reported that when the plant is about four years old that the root is then ready to be harvested and prepared to make the kava drink. Children or young women (preferably virgins) traditionally chewed the root. The action of the salivary enzymes would release the kava pyrones or kava lactones. These are the pharmacologically

active chemicals in the kava root. The chewed root was then mixed with cold water, as hot water would inactivate these chemicals, and it was then squeezed through a cloth filter to make the kava drink. Kava has been around for at least 3,000 years and has been used primarily for ceremonial purposes, and medicinal purposes in the South Pacific during that time. It has been used as an antifungal, to induce abortions, to treat venereal disease, urinary tract infections, menopausal symptoms and asthma. In more recent years it has been used as a muscle relaxant, anti-seizure medication, and to treat stroke, pain, depression and anxiety. However, none of these uses has been tested extensively and the FDA here has

not approved the use of kava for the treatment of any medical condition in the US as of yet.

How Kava Works:

Kava works on several receptors in the brain (GABA, dopamine D2, opioid receptors, and histamine H1 and H2 receptors) located primarily in the amygdale that is part of the limbic system in the brain—the part responsible for our emotional reactions. Kava decreases emotional excitability and has been shown to be as effective as some prescription anti-anxiety medications such as oxazepam. Interestingly it is made of six different chemicals called lactones that vary in concentration from plant to plant, and their sum total has a greater effect on the brain than any one of them does individually.



Reactions to a Single Use of Kava:

Generally, the single use of kava will cause a mild numbing of the lips and inside of the mouth and throat. This can be distressing to someone who has had an allergic reaction to eating a certain food in the past, as the tingling/numbing sensation from drinking kava is similar. Other reactions include changes in motor function and reflexes and visual disturbances. Kava is known to inhibit various cytochrome p450 enzymes in the liver that are responsible for metabolizing a number of other medications including alcohol. This means that if a person is taking other medications that can have a sedating effect, that the effect will be even more pronounced. And if a person is already suffering from liver disease, or kidney disease, or even Parkinson's disease their symptoms may be worsened.

Reactions to Long Term Heavy Use of Kava:

There are reports that kava use produces an alert, relaxed mental state, and yet, other reports

that in chronic users it can create dependence and abuse, lethargy, depression, weight loss, flaky skin or rash, Parkinson's like tremors, shortness of breath, pulmonary hypertension, lowered immunity, and a decrease in clotting factors in the blood. There has been law set up in Australia in reaction to abuse of kava by the Aboriginal population. It was originally thought that kava would be a good substitute for excessive alcohol consumption by some

Aborigines, but it turned into another drug of abuse. There were two studies that indicated that it's best not to take kava for more than 1 to 2 months, unless prescribed by a health professional, and that liver function tests should be done before and during treatment to monitor for any evidence of liver damage. Keep in mind this is if one is

using kava on a chronic basis.

When not to use Kava:

There are certain situations in which it is contraindicated to use kava which include the following:

- Pregnancy
- Breast Feeding
- Depression
- History of Parkinson's disease
- Liver Disease
- Kidney Disease
- Blood clotting disorders
- Prescription medications that are sedating
- Alcohol consumption

Possible Explanation for Kava's Liver Toxicity Cases:

The one article that particularly caught my attention was a study done at the University of Hawaii in 2004. It was done to address the situation that kava products have been banned in about a dozen countries due to the belief that kava causes severe liver toxicity and even liver failure. They pointed out that traditionally Pacific

Islanders have used the underground parts of the kava plant to make the kava drink. However, “some kava herbal supplements may contain ingredients from aerial stem peelings. “ There is a different alkaloid called pipermethystine (PM) that is found in the leaves and stem peelings, as compared to the kava lactones that are found in the roots. Their study compared the impact of PM, found in the stems and leaves of the kava plant, to the kava lactones found in the kava roots, on human liver cells in an in vitro setting—meaning not actually in a human, but in a lab set-up using liver cells from a human. The result was that the PM caused serious liver cell death within 24 hours, but the kava lactones from the kava root did not cause death of the liver cells. So, PM may be what has contributed to the rare but severe liver toxicity reactions to kava. The only issue here is, how would we as consumers know if the kava that we have is pure from the root, or has parts of the kava leaves or stems in it too.

This was a fascinating endeavor to read all about kava, something we as travelers to another country would know little about. We all know about the impact of alcohol, but we certainly

aren't familiar with the impact of kava.

There are some interesting stories regarding the legends, mythology, and symbolism of Kava as used by the original Pacific Islanders that have reference to sexuality. You might enjoy checking out a couple of these websites for this fascinating information:

www.biopsychiatry.com/kava/

www.konakavafarm.com/articles/legend_of_kava.html

I always say that wisdom is born out of knowledge and experience—so on that note, I hope the above information and your own experience will guide you.

Happy and Safe Diving!

Yours Truly,

Dr. Debbie

Oceans Alive: Marine Life of Catalina Island DVD

The first in a series of Interactive Marine Life Identification DVD's will be offered by Oceanvideo Productions at the Monthly SOCDC Dive Club meetings for 10% off of the retail price of \$21.95. Please see Debbie Hill Titus, MD or Bob Titus at the meetings to purchase your copy. Also, a copy will be donated to the Raffle each month for the rest of 2006.

The Oceans Alive: Marine of Catalina Island DVD shows a collection of over 85 images of marine life found in the waters around Santa Catalina Island. The underwater video series is dedicated to exploring and discovering life under the ocean. Debbie and Bob Titus, the underwater videographers, who shot and produced this DVD, are hoping to inspire a love for and appreciation for the amazing underwater world! The DVD allows for selection of short video clips of individual organisms that provide the scientific name, habitat, and some interesting facts about each marine organism, or for continuous play of the entire DVD.

For additional information or to order online visit: www.divein.tv.

