

Herbal Remedies Come Under Fire

STUDIES LINK KIDNEY PROBLEMS TO USE OF HERBAL PRODUCTS

Editorial Staff

Americans are increasingly turning to herbs and dietary supplements to maintain or improve their health. According to some estimates, the use of herbal remedies jumped as much as 380% between 1990 and 1997.¹ Up to 37% of all Americans currently use herbs or herbal remedies, with approximately \$4 billion spent annually on such products.²

A growing number of Americans are also using herbal supplements in conjunction with other medications. Despite the relative lack of controlled scientific studies, at least 15 million American adults are believed to be taking herbs, high-dose megavitamins or both in combination with prescription drugs;¹ that number is expected to increase significantly in the next few years.

While there is a growing body of scientific literature about herbal remedies, most have not been researched thoroughly. Occasionally, they can have serious and unexpected health consequences. A pair of recently published articles in the *American Journal of Kidney Diseases*^{3,4} highlight the need for further study of these substances and the possible effects they may have when used in addition to, or as a substitute for, other drugs.

The Perils of Noni Juice

In the first study, Dr. Bruce Mueller and his team of researchers at Purdue University School of Pharmacy and Pharmacal Sciences encountered a kidney patient with hyperkalemia, an abnormally high concentration of potassium that can lead to weakness, heart arrhythmia or respiratory arrest. Although the patient had complied with dietary restrictions to keep his potassium intake low, his blood potassium level remained unusually high.

Upon questioning, the patient admitted drinking an ounce of noni juice, a popular herbal product derived from the fruit of the noni tree, before each meal in order to improve his energy level. He was warned that the drink might cause high potassium levels and was released.

On his next visit, the patient's potassium levels were still above normal, and he admitted that he had not stopped drinking noni juice. He was again warned about the negative effects it could have, whereupon he stated that he would never quit taking the drink and that the researchers "did not understand the power of noni juice." The patient never returned to the clinic for further treatment.

The scientists then obtained a bottle of noni juice and analyzed its contents. The juice was shown to have a higher potassium content than concentrated orange juice, bottled grape juice, canned pineapple juice, apple juice or grapefruit juice. Those juices each contained enough potassium to warrant limiting their use in patients with end-stage renal disease; however, no mention of potassium

content appeared on the bottle of noni juice.

A search for information on noni juice was also conducted on the World Wide Web. Nearly 4,000 references were found, with testimonials claiming that the juice could treat a variety of conditions ranging from hypertension and gastric ulcers to sexual dysfunction and senility. Although the bottle of noni juice the scientists obtained suggested drinking only one ounce per day, most testimonials recommended far greater doses.

Given the high potassium content of the drink and the variety of questionable information presented online, the researchers concluded that "patients with renal dysfunction taking large volumes of noni juice may be at risk for the development of hyperkalemia." They also recommended that kidney patients be questioned about their use of herbal remedies and other products "because they may be a hidden dietary source of potassium."

Could Chinese Herbs Cause Kidney Failure?

The second study examined 12 Taiwanese patients with unexplained renal failure who each underwent a kidney biopsy. Analysis revealed "fibrosing interstitial nephritis" (inflammation of the kidney tissues) and severe damage to (or loss of) the kidney tubules. The patients also had similar clinical features, including early and severe anemia, increased protein and glucose in the urine, and a rapid deterioration of renal function.

While the duration, types and amounts of herbs consumed varied from patient to patient, all 12 shared two common traits: (1) they had not previously taken other medications; (2) they had each taken Chinese herbs for one of the following reasons: weight control; as a nutritional supplement; or for a non-kidney condition.

Even after the patients stopped taking herbal medicines, renal function continued to deteriorate. More than half of the group was forced to undergo dialysis, while the remainder experienced progressive renal failure. One patient eventually developed bladder carcinoma.

The patients were all diagnosed with Chinese herbs nephropathy (CHN), a condition first reported in Belgium in 1992 and characterized by inflamed kidney tissues and progressive renal dysfunction (the same symptoms as reported in the Taiwanese patients). In the Belgian cases, aristolochic acid, a substance known to be toxic to kidney cells, was targeted as the cause of CHN; however, no common ingredient could be identified in the Taiwanese patients.

Although the researchers were unable to determine the precise agent responsible, they noted several clinical and structural similarities between the Belgian and Taiwanese patients and stated that "this type of nephropathy is closely related to the consumption of Chinese herbs." They also speculated that "unidentified phytotoxins other than aristolochic acid might induce this unique toxic nephropathy."

"It is crucial to investigate the possible role of herbal remedies when faced with an interstitial nephritis of unknown origin," they concluded. "Obviously, the incidence of herbal medicine-induced nephrotoxicity is more common than previously perceived · Therefore, the risk of using uncontrolled herbal medicines warrants our urgent attention."

Experts Stress Communication, Education and Research

Why more people turn to herbal remedies remains something of a mystery. Some people believe using herbs gives them a sense of personal empowerment and control over their condition. Others may prefer natural therapies because of religious or philosophical beliefs, and still others may feel that natural herbal products have less side-effects than pharmaceutical drugs or surgery.

As one can see from the studies on noni juice and Chinese herbs, however, natural does not necessarily mean safe. Many herbs have yet to be tested for their toxic and pharmacologic properties, and as Dr. Jean-Louis Vanherweghem of the Universite Libre de Bruxelles contended in an editorial accompanying the two studies, "many plants contain substances toxic to humans and therefore - not surprisingly - to the human kidney."⁵

Whatever the reasons may be, it is generally agreed that stringent steps need to be taken to ensure patient safety. First and foremost, many health experts believe, is an increase in both the level and quality of communication between doctor and patient.

Unfortunately, when it comes to communication, "The train has left the station," says Dr. Leonore Arab. A professor of epidemiology and nutrition at the University of North Carolina, Arab organized an international conference on medicinal herbs at UNC this past March. She believes patients don't always receive their information from the most credible sources. "People are not turning to health professionals. They go to magazines for information."⁶

Communication is a two-way street, however, and patients must be willing to discuss what herbs they are taking with their doctor. "Ultimately, the responsibility does fall upon the patient to let us know what you are taking," said Dr. Jessie Leak, an anesthesiologist at the M.D. Anderson Cancer Center in Houston, Texas. "Certainly, if we ask and you fail to tell us, then · your safety may be compromised."⁷

Another way to ensure patient safety is for doctors to increase their own knowledge about herbal remedies. While such training is rare in the U.S., many European doctors learn about herbal medicine as a normal part of their medical education, and the number of American medical schools offering courses in alternative therapies is on the rise.

"People seek a cure for something we haven't been able to provide, so they take the action by themselves," said Dr. Felix Stickel of the University of Erlangen in Heidelberg, Germany. "The physicians have to become aware of the needs as well as the scientific background of these herbs."⁸

Perhaps most important of all, more research needs to be conducted into the herbal remedies themselves, and the makers of such products must be held to higher regulatory standards to ensure quality and safety. In some countries such as Germany, herbal medicines are regulated like pharmaceutical drugs, which allows the government to monitor the growing, harvesting and processing of herbs.

In the U.S., however, herbal medicines are classified as supplements, which means there is no monitoring of quality control by a government drug agency. As a result, manufacturers of such remedies are not required to produce uniform batches with known ingredients; some products may actually contain little or none of what their packaging promises.

"We need to convince the producers to put some money into research on these products,"⁸ said Dr.

Varro Tyler, an herbal medicine expert from Purdue University. "There is absolutely no way that consumers can be assured that what is on the label is actually in the package, other than the reputation" of the manufacturer.

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