

Rat poison in synthetic pot can kill users: report

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(HealthDay)—Synthetic marijuana laced with rat poison has caused

hundreds of hospitalizations in the United States this year, and a new study details just how serious the poisonings can be.

In July, the U.S. Food and Drug Administration warned of recent outbreaks of severe bleeding linked to [synthetic marijuana](#) that was tainted with brodifacoum—a blood thinner used in rat poison.

At the time, the FDA said that hundreds of people in about 10 states had been hospitalized for bleeding after using the contaminated products, and several had died.

Synthetic cannabinoids are human-made compounds that target the same brain receptors as marijuana. Known by names like Spice and K2, they are sold online and at gas stations and convenience stores, according to the FDA.

The compounds are typically sprayed onto various herbs so they can be smoked.

It's still unclear how or why a rat poison ingredient got into some products, experts said. But the consequences have been clear.

The new study, published Sept. 27 in the *New England Journal of Medicine*, describes the cases of 34 [patients](#) who used the tainted products. All were admitted to the same Illinois hospital last March or April.

Of the patients who were tested, all had brodifacoum in their systems. Some tested positive for additional blood thinners, as well.

Most came to the hospital with multiple symptoms—including blood in their urine or stool, unexplained bruising, nosebleeds and coughing up blood. One patient died from bleeding in the brain.

And while the others survived, the treatment was not simple.

Brodifacoum and other [blood thinners](#) used in rat poison are designed to have a long half-life. And their effects last for not hours or days—but for months, explained report author Dr. Amar Kelkar.

That meant the patients required long-term treatment with vitamin K, which helps the blood clot. One patient, for example, needed 50 milligrams (mg) of vitamin K every day for about nine months.

Kelkar, who is now with the University of Florida's Shands Hospital, was based at the University of Illinois at the time.

He said there were several obstacles to getting patients treated. Eight left the hospital against medical advice, with six needing to be readmitted. Two even used the contaminated products again.

And then there's the high cost of the cure.

According to Dr. Jean Connors, a hematologist at Brigham and Women's Hospital in Boston, "Vitamin K is very expensive."

Just three 5-mg pills of generic vitamin K cost about \$81 out-of-pocket, said Connors, who wrote an editorial published with the study.

Kelkar and his colleagues worked to get the patients the supply they needed—reaching out to insurance companies, federal programs and pharmacies. The Illinois health department ultimately got a donation of 800,000 vitamin K pills from drug maker Valeant.

Who added rat poison to the products, and why? No one yet knows for sure, Kelkar said.

But the leading theory is that the contaminants were added to prolong the drug's "high," he noted.

This is far from the first time synthetic cannabinoids have been linked to serious problems, Kelkar pointed out. Even if they are not tainted with [rat poison](#), the products are risky—partly because manufacturers are constantly tweaking the chemical composition.

"So the people who take these drugs end up being a test population—which is very dangerous," Kelkar explained.

Connors stressed the same point. "I think people may not realize there's a difference between synthetic cannabinoids and marijuana," she said.

"But these drugs are very different from the leaves off that [cannabis] plant. They can have unexpected mind-altering effects that are different from marijuana."

Kelkar said that, in fact, some patients in this report did not realize they were taking a synthetic product.

Authorities have banned some chemicals used in [synthetic cannabinoids](#), according to the U.S. National Institute on Drug Abuse. But makers keep changing the chemical formulas in the products, to stay one step ahead of the law.

More information: Amar Kelkar, M.D., hematology fellow, University of Florida Shands Hospital, Gainesville; Jean Connors, M.D., hematologist, Brigham and Women's Hospital, and associate professor, medicine, Harvard Medical School, Boston; Sept. 27, 2018, *New England Journal of Medicine*

The U.S. National Institute on Drug Abuse has more on [synthetic cannabinoids](#).

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