

This Unregulated Dietary Supplement Could Damage Your Heart

Health Line, Sep 12, 2018

Health News

New research suggests many “natural” weight loss and athletic supplements aren’t worth the risk, including higenamine, which is actually banned by the World Anti-Doping Agency.

Ten years ago, Dr. Pieter Cohen noticed some of his patients were becoming ill because of the weight loss pills they were taking.

Cohen, an internist and associate professor of medicine at Harvard University, had some of those supplements tested and found that some of the pills and powders contained substances his patients didn’t even know were in there. Essentially, they contained drugs like ephedra, a natural stimulant promoted for weight loss that the U.S. Food and Drug Administration (FDA) has since been banned for use in supplements.

Ephedra, like many other stimulants, is falsely promoted as being safer because it’s “natural” — i.e., it’s a substance that comes from plants.

“It *is* found in nature,” Cohen said. But just because something occurs naturally doesn’t mean it’s always good for us.

Most recently, Cohen has turned his sights on yet another plant-based stimulant: higenamine. Found in plants like the Sichuan aconite and nandina fruit, higenamine is a beta-2 agonist, which allows the smooth muscles in the lungs to absorb more oxygen. These stimulant qualities [may pose a risk to the heart](#).

Because of how it works in the body, higenamine is marketed — also under the names norcoclaurine or demethylcoclaurine — as a supplement to help a person lose weight or increase their athletic performance. But, among the problems some athletes are finding, it’s been on the World Anti-Doping Agency’s list of banned substances since the beginning of 2017.

Despite this, it remains available over the counter in a variety of preparations in the United States.

One problem is that higenamine is still in supplements promoted to athletes, and new research suggests that in the largely unregulated supplement market, it’s often hard to tell exactly how much of it is actually in those pills and powders.

Between 0 and 200 percent

In a [study published in the journal Clinical Toxicology](#), Cohen and other researchers discovered vastly different levels of higenamine in different dietary supplements, from barely detectable levels to 200 percent of the listed quantity.

In their study, Cohen and his team analyzed 24 dietary supplements that were for sale in the United States before higenamine was banned by the World Anti-Doping Agency in 2007.

The samples were processed at the NSF International — an independent lab based in Ann Arbor, Michigan, that also tests for the dietary supplement manufacturers — and the National Institute for Public Health and the Environment in the Netherlands.

Some of the products tested were sold under the brand names Adrenal Pump, Burn-HC, Diablo, Gnar Pump, HyperMax, iBurn2, OxyShred, and Uplift and were labeled as a pre-workout, weight loss, or energy and focus aid. Two brands didn't list a labeled indication.

Of products sampled, the levels of higenamine in the supplements varied greatly. Five listed higenamine but didn't contain any, while one, Razor8, contained up to 62 milligrams in one serving.

“No matter how carefully you read the label, you have no idea how much you're taking,” Cohen told Healthline. “There's so much leeway into what can go into supplements.”

Cohen is quick to note that no clinical trials on higenamine have been conducted in the United States, and the only research that has had the same kind of scrutiny as a pharmaceutical drug has occurred in China. The doses administered were 2.5 milligrams, and those involved directly injecting higenamine.

“Two studies, both funded by a supplement manufacturer, purport to demonstrate the safety of orally ministered higenamine, but neither provides clinically relevant information,” the study states of the available research.

So, medical professionals aren't sure how the drug responds when it's ingested, as it's the most common way people take it.

Higenamine can still legally to be sold in over-the-counter supplements because it was “grandfathered in” due to being a “botanical remedy” when the [Dietary Supplement Health and Education Act of 1994](#), which exempts it from new safety testing standards, took effect.

Risky for competitive athletes

While over-the-over supplements can still contain higenamine, it's a banned substance for competitive athletes in sports with strict anti-doping standards.

Higenamine isn't Lance Armstrong-level doping, but the people getting caught with higenamine have to pay a real price. In 2016, before it was on the anti-doping banned list, a [Liverpool soccer player](#) tested positive for it and was temporarily suspended. (It was banned by some leagues, but not yet worldwide.)

In the United States, athletes caught using higenamine involved moms, weekend warriors, and others chasing a "natural" edge. While a few have received warnings, some have been banned from competition for two years.

According to the [U.S. Anti-Doping Agency](#), five people have been sanctioned for having higenamine in their system while competing. The majority of those cases involved amateur female weightlifters who had no other banned substances in their blood or urine samples.

Because of the dangers it poses to the careers of competitive athletes at all levels, as well as the lack of scientific research and varying doses found in supplements for sale in the United States, Cohen says higenamine and other substances in some supplements marketed as "natural" dietary aids come with many unknown risks.

"Consumers shouldn't turn to supplements and think they're safer than pharmaceuticals," he said.