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Western Scientists Look To Chinese Medicine For Fresh Leads

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January 18, 2014 2:56 PM



Workers prepare Chinese traditional medicine for customers in Beijing.

Alexander F. Yuan/AP

In the quest for new treatments, U.S. researchers are looking to traditional Chinese medicines, some of the oldest remedies in the world.

A recent discovery resulted in a better treatment for a type of leukemia that strikes about [1 in 250,000 people](#) in the U.S. Another [study](#) found a potential new painkiller in China's medicine chest. Other researchers are studying a traditional medicinal plant called "thunder god vine" for its anti-cancer properties.

The approach has already had some success. The Chinese herbal medicine [artemisinin](#), for instance, has gone on to become the most potent anti-malarial drug available.

Not all the leads have panned out, of course. But the old field has shown enough potential to keep interest high.

A better leukemia treatment drawn from an ancient medicine should give us hope for developing anti-cancer drugs, says [Dr. Samuel Waxman](#), a [co-author of the report](#) and professor of medicine and cancer specialist at Mount Sinai Hospital. "It gives a lot of optimism of seeking other types of cancer medicines in the Chinese pharmacopedia, which many people are looking into," Waxman says.

The treatment uses arsenic trioxide, which has traditionally been used in Chinese medicine. The U.S. Food and Drug Administration approved arsenic trioxide (sold as Trisenox here) as [a treatment in 2000](#), and later [research showed](#) that patients who received standard chemotherapy followed by arsenic trioxide did better than patients who just received standard chemotherapy.

But a [big clinical test](#) recently found that the drug, in combination with all-trans retinoic acid — another drug commonly used to treat [acute promyelocytic leukemia \(APL\)](#) — turned out to be more effective than the usual chemotherapy.

That results means arsenic trioxide should become the new standard for patients that can use it, says [Dr. Richard Stone](#), director of the adult acute leukemia program at the Dana-Farber Cancer Institute.

"So this was a cure for leukemia without chemotherapy, really for the first time in a large randomized trial," says Stone. "We've got a patient in the hospital right now who's receiving that very therapy."

He says there are still side effects from the new regimen affecting the skin and heart, but for most people they're less of a problem than the hair loss, vomiting and diarrhea that can come with chemotherapy.

The arsenic trioxide treatment was developed by a Chinese doctor working in northern China during the Cultural Revolution, according to Mount Sinai's Waxman. This doctor couldn't use much Western medicine, so to treat his APL patients, he started giving them arsenic trioxide intravenously. He kept a journal for 10 years and noticed that it worked remarkably well. He [eventually published his findings in 2001](#) with other collaborators.

"That was one of the first examples of a targeted treatment in all of cancer," Waxman says.

Other researchers are also [studying triptolide](#), a natural product of a traditional Chinese medicinal plant called *lei gong teng* or "thunder god vine" as a possible anti-cancer drug. The product was [effective against cancer in animal models](#) and scientists in the West are now studying exactly how it works, says [Jun Liu](#), one of the researchers and a professor of pharmacology and molecular sciences at Johns Hopkins University.

"Traditional medicine will always remain a useful source of new drugs. The question is, to what extent?" Liu says. "Drug discovery and development is a very lengthy and costly process and there are always failures."

Research into Chinese medicine is no different. Cancer researchers at the University of Minnesota recently [started an early clinical trial](#) to study a drug that was developed from triptolide for treating pancreatic cancer, says [Edward Greeno](#), associate professor of medicine at the University of Minnesota. He points out it took millions of dollars just to get to this point.

"It's easy to think, and normal to think, that if people are using it already then it shouldn't require a lot to develop it into a useful product. The problem is that our standard for what is safe and effective is very high, appropriately," Greeno says. "It looks like a pretty straight path but what you don't see are all the false starts and wrong turns that we make along the way."

Studying Chinese medicine for new treatments has had its share of wrong turns. Western scientists previously looked into treatments for the [prevention of dementia](#), [eczema](#), and [bacteria that cause most types of stomach ulcers](#), but concluded they weren't particularly effective.

But the failures don't mean we should give up, says [Brian Berman](#), a professor of medicine at the University of Maryland who served as the principal investigator of two Chinese medicine research initiatives funded by the National Institutes of Health.

Chinese medicine is one lead to consider, especially for chronic diseases that have yet to be cured. "The advantage you have when you look at some of the Chinese medicine therapies is that by and large, they are safe, as long as what you're getting doesn't have added ingredients," Berman says. "We need to look at what other cultures have to offer and then we need to put them through a scientifically rigorous test."