

Green tea: Seeking hope in a dose of nature

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Once a day, Matthew Hudson takes a square of chocolate mixed with green-tea extract and lets it dissolve in his mouth.

Hudson, who has leukemia, is skeptical of natural therapies. But he has been taking the concoction for more than three years, ever since his doctor at the Mayo Clinic suggested it.

"My disease has not progressed since I've been taking it," said Hudson, a retired lawyer and investor from northern Virginia. "What does that mean? I don't know. It means I'm not going to stop taking it."

A recent study by Mayo Clinic researchers provided more reason for hope. They found that high doses of green-tea extract can have a positive effect on Hudson's type of [cancer](#), chronic lymphocytic leukemia (CLL).

The saga of Daniel Hauser, the 13-year-old Minnesota boy with Hodgkin's lymphoma, has sparked public debate over the value of natural medicine, especially in [cancer treatment](#). In labs at Mayo and elsewhere, scientists are putting those same questions to the test, training their microscopes on everything from shark cartilage to mistletoe and finding some surprising answers.

At last count, the National Institutes of Health's center for complementary medicine had sponsored 47 cancer-related studies _ on macrobiotic diets, soy, Reiki-energy healing, yoga, flaxseed, self-hypnosis, fish oil, massage, acupuncture and more.

So far, most have focused on how alternative therapies can help ease the pain or side effects of cancer treatment, says Mary Jo Kreitzer, director of the University of Minnesota's Center for Spirituality and Healing.

Studies that have looked for cancer-fighting properties have been disappointing, she said. "There have just not been good vigorous studies that have found these natural remedies to cure cancer," said Kreitzer, who is both a scientist and a supporter of complementary medicine.

The green-tea study shows the promise, she said, as well as the difficulties in trying to tap nature's curing powers.

It was, by all accounts, a modest study, and the results fell short of a major breakthrough. Just one of 33 patients improved enough to be classified "in remission." Yet of the dozen patients with enlarged lymph nodes (one of the hallmarks of the disease), 11 saw them shrink by more than half in six months, according to the study.

"That was obviously encouraging," said Dr. Tait Shanafelt, a Mayo Clinic cancer specialist who led the study, which was published online in the prestigious *Journal of Clinical Oncology*. "There was a suggestion of some benefit to these patients."

As a scientist, Shanafelt became intrigued several years ago about the possibilities in green tea. For centuries, it had been touted for its supposed health benefits, including preventing cancer. So he and his colleagues decided to test it. They put leukemia cells in a test tube and exposed them to an extract from green tea, called EGCG (epigallocatechin gallate). Most of the cells were wiped out.

When the results became known, several of his leukemia patients started taking over-the-counter products with EGCG; Shanafelt and his colleagues found they showed "an objective improvement" in their

medical tests.

At that point, they decided to do a formal test, giving concentrated doses of the extract to 33 patients. None of the patients was receiving chemotherapy at the time, because they were in early stages of the illness. The goal was to see if the green tea could keep the disease from progressing.

The patients couldn't drink enough tea to get the proper doses, which ranged up to 2,000 milligrams twice a day _ the equivalent of "probably over 100 cups a day," Shanafelt said. Instead, they took it in capsule form.

Because no drug company was interested in funding the studies, Shanafelt turned to a patient group, called CLL Topics, which raised nearly \$400,000 for this and other research.

Dr. Chaya Venkat, who founded the group with her late husband, said she was eager to put the theories about green tea to the test. Her husband, P.C. Venkat of Sedona, Ariz., had been taking green tea extract for several years before he died last summer at 59. While she believed it may have helped rein in his leukemia, she was cautious. "I'm a scientist. You don't pre-guess what the answer is going to be before you do the experiment," she said.

The results of the Mayo study were encouraging, if not perfect, she said. "Mayo showed that it works in a subset of patients," she said. "It has a chance of slowing things down, giving people more time." At the same time, she said, "it also proves that it doesn't cure CLL."

Shanafelt said most of the patients had only mild side effects, such as low-grade nausea. He and his research team are now working on a follow-up study.

Even if that's a success, he said, that doesn't mean cancer patients should start guzzling [green tea](#). "Even though we think of them as benign because we think that they have a natural origin, these are chemicals, like any other medication."

Which is about the way Matthew Hudson, the leukemia patient, sees it.

"I think some of the things we make up in the laboratories are magic," he said, "and I think there are some things out there in nature that are also good, too."

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