

# Ginseng Shows Promise in Treating Diabetes

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Diabetes has become so prevalent that some concerned health care providers and officials have labeled it, along with obesity, as one of the "plagues" of the 21st century. According to the American Diabetes Association (ADA), the number of Americans with diabetes tripled between 1960 and 1990, then doubled again between 1990 and 2000. All told, approximately 17 million Americans - more than 6 percent of the general population - have diabetes, and government officials predict that number will increase to more than 29 million by 2050.<sup>1</sup>

Although there are several types of diabetes, the most common form is type 2, which results when the body either does not produce enough insulin (a hormone that allows glucose to enter cells) or fails to utilize insulin properly. Approximately 90 percent of all people with diabetes have type 2 diabetes. Left untreated, it can cause a wide range of related health problems, including heart disease; blindness; kidney failure; nerve damage; and poor blood circulation.

Previous studies have suggested that ginseng may play a role in lowering levels of glucose in the blood. A 1995 trial showed reductions in blood glucose levels in diabetic patients who took ginseng, but this was attributed to increased physical activity, rather than the herb's properties.<sup>2</sup> However, a study published in the *Archives of Internal Medicine* in 2000 found that American ginseng could lower blood sugar in people prior to, or at the same time as, consumption of a drink high in glucose.<sup>3</sup>

New research presented at the ADA's 63rd Scientific Sessions in New Orleans<sup>4,5</sup> has reinforced earlier findings and demonstrated that both the American and Korean varieties of ginseng may help to normalize blood glucose levels and improve insulin sensitivity in patients with type 2 diabetes. Although more research is needed, these studies offer hope to the millions of people who suffer from diabetes (and its accompanying ailments), and could lead to safer, more cost-effective methods of blood sugar control.

## Better Blood Sugar with American Ginseng

In the first study, 30 type 2 diabetes patients were assigned to receive a capsule containing a combination of American ginseng and a viscous fiber called konjac mannan, or a placebo capsule of corn starch and wheat bran, three times a day for 12 weeks. The patients were not asked to abandon their standard diabetes treatments during the course of the study; medication use, diet, body weight and lifestyle factors were all kept constant.

After a four-week break, the participants switched treatment regimens; those who originally received the ginseng/fiber capsules were given the placebo for 12 weeks, and vice versa. Blood samples of patients in both groups were taken before and after each 12-week period and analyzed for comparison.

Analysis of the blood samples showed a "significant decrease" in levels of hemoglobin A1c - a standard measure of blood glucose - from an average of 7.0 percent to 6.5 percent when patients

took the ginseng capsules, but not when they took the placebo. According to the ADA, a healthy person without diabetes will have an A1c value that ranges between 4 percent and 6 percent. The closer the A1c is to normal, the better a person's diabetes is under control.

In an interview with Medscape Medical News, Alexandra Jenkins, a research associate at the University of Toronto who headed the study, explained that the ginseng capsule appeared to work as well as some medications used to control blood glucose levels. "The drop is comparable to that seen with other hypoglycemic agents, such as the alpha-glucosidase inhibitors, when used as adjunct therapy," she said.<sup>6</sup>

In addition, the herbal mixture appeared safe; no adverse effects were reported by any patients during the trial.

### Korean Red Ginseng Improves Insulin Sensitivity

In the second trial, a second team of researchers from the University of Toronto, led by doctoral candidate John Sievenpiper, examined the role of Korean red ginseng on improving blood sugar levels. Using the same design as the American ginseng study, 19 type 2 diabetes patients were randomized to receive six grams of either red ginseng or a placebo every day for 12 weeks. At the end of the 12-week period, a four-week break ensued, and patients switched treatment regimens.

Although hemoglobin A1c levels did not decrease as much as in the American ginseng trial, Korean red ginseng "decreased plasma urea at six weeks compared with placebo" and "improved several features of metabolic control." Ginseng treatment also led to significant improvements in both hepatic insulin sensitivity and whole-body insulin sensitivity compared with the placebo. As in the American ginseng study, Korean red ginseng was shown to be safe; liver, kidney, and hemostatic function and blood pressure all were not adversely affected, compared to the placebo.

"Korean red ginseng may prove to be a safe and efficacious adjunct to conventional treatment," the researchers concluded.

Mr. Sievenpiper cautioned that the results of the studies do not necessarily mean patients with diabetes should begin taking ginseng to lower blood glucose levels. "These are preliminary, short-term studies that indicate a need for more research," he said in an interview with WebMD. He added that people with diabetes should tell their primary care physician if they are taking ginseng, because lowering one's blood sugar too much can be dangerous as well.

Former ADA President Francine R. Kaufman, MD, shared some of Sievenpiper's concerns over the size and length of the trials, but was more optimistic regarding ginseng's future.

"The Chinese, who use ginseng root to treat a variety of ailments, have been in medicine for 5,000 years," Dr. Kaufman said. "Just as acupuncture has been proven to have a role in Western medicine, so too will ginseng. ... There is no doubt that natural products such as ginseng have a role in controlling the body's defective response to insulin."<sup>7</sup>

The abstracts for both studies are available on the American Diabetes Association's Web site ([www.diabetes.org](http://www.diabetes.org)), under the "For Health Care Professionals" section.

### References

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OCTOBER 2003