

Onion extract may improve high blood sugar and cholesterol

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The extract of onion bulb, *Allium cepa*, strongly lowered high blood glucose (sugar) and total cholesterol levels in diabetic rats when given with the antidiabetic drug metformin, according to a new study. The study results will be presented Thursday at The Endocrine Society's 97th annual meeting in San Diego.

"Onion is cheap and available and has been used as a nutritional supplement," said lead investigator Anthony Ojieh, MBBS (MD), MSc, of Delta State University in Abraka, Nigeria. "It has the potential for use in treating patients with diabetes."

To three groups of rats with medically induced diabetes, Ojieh and his colleagues gave metformin and varying doses of onion extract—200, 400 and 600 milligrams per kilograms of body weight daily (mg/kg/day)—to see if it would enhance the drug's effects. They also gave metformin and onion extract to three groups of nondiabetic rats with [normal blood sugar](#), for comparison. Two control groups, one nondiabetic and one diabetic, received neither metformin nor onion extract. Another two groups (one with diabetes, one without) received only metformin and no onion extract. Each group contained five rats.

Two doses of onion extract, 400 and 600 mg/kg/day, strongly reduced fasting [blood sugar levels](#) in diabetic rats by 50 percent and 35 percent, respectively, compared with "baseline" levels at the start of the study before the rodents received onion extract, Ojieh reported.

Allium cepa also reportedly lowered the total cholesterol level in diabetic rats, with the two larger doses again having the greatest effects.

Onion extract led to an increase in average weight among nondiabetic rats but not diabetic rats.

"Onion is not high in calories," Ojieh said. "However, it seems to increase the metabolic rate and, with that, to increase the appetite, leading to an increase in feeding."

Histologic study of the pancreas removed from each diabetic rat showed that neither metformin nor onion extract healed the damage that resulted from the drug-caused diabetes.

"We need to investigate the mechanism by which onion brought about the [blood glucose](#) reduction," Ojieh said. "We do not yet have an explanation."

The onion extract used for the experiment was a crude preparation from onion bulb, which is available in the local market. If this were to be administered to humans, it would usually be purified so that only the active ingredients would be quantified for adequate dosing, Ojieh said.

Provided by The Endocrine Society

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