

Experimental drug raises 'good' cholesterol, may help control diabetes

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A medicine designed to improve levels of "good" cholesterol may also help control blood sugar in people with diabetes who are taking cholesterol-lowering drugs, according to a new analysis in *Circulation: Journal of the American Heart Association*.

Researchers made the finding while analyzing data from a clinical trial on the drug torcetrapib that was halted five years ago. Torcetrapib is a cholesterol ester transfer [protein](#) (CETP) inhibitor, a type of drug that increases levels of high-density lipoproteins (HDLs, or "good" cholesterol).

The study found that 6,661 people with type 2 diabetes – also known as "adult-onset" diabetes – showed improved [blood sugar](#) control when taking torcetrapib along with a statin medication that reduces low-density lipoproteins (LDLs or "bad" [cholesterol](#)). Subjects who took a statin and a placebo did not see such improvements.

"The possibility that CETP inhibitor drugs may not only reduce the risk of heart attack and stroke, but may also improve the control of blood sugar in people with diabetes, is an exciting prospect that may translate into real health benefits for people with diabetes," said the study's lead author, Philip Barter, M.B.B.S., Ph.D., a professor of medicine and director of the Heart Research Institute at the University of Sydney in Australia.

About 220 million people worldwide have diabetes, according the World

Health Organization. An estimated 90 percent to 95 percent of them have [type 2 diabetes](#), which increases the risk for heart disease, stroke and various other health problems.

While the experimental drug was not as effective in taming diabetes as drugs that are commonly used for that purpose, it did reduce the adverse impact on blood sugar commonly seen with statin use, Barter said.

"Inhibition of CETP has the potential to prevent a worsening of diabetic control that often occurs in people taking statin drugs," he said.

The clinical trial called ILLUMINATE (Investigation of Lipid Level Management to Understand its Impact in Atherosclerotic Events) involved more than 15,000 people ages 45 to 75. They all had a history of heart attack, stroke, chest pain, peripheral vascular disease or cardiac revascularization (angioplasty or bypass). All were taking medicine to help control their diabetes. The trial was stopped prematurely in 2006 when patients receiving torcetrapib and a statin called atorvastatin had more cardiovascular problems and deaths than those given atorvastatin and a placebo. Researchers later determined those problems were due to other effects of the drug, not its CETP inhibition.

While the development of torcetrapib was halted, two other CETP inhibitors that scientists say do not cause the adverse effects – dalcetrapib and anacetrapib – are in the government's drug approval pipeline.

The analysis of the ILLUMINATE data found:

- After three months of treatment, those given both drugs had fasting blood sugar 0.34 millimoles per liter lower than in the group receiving just the statin.

- Fasting insulin was 11.7 microunits per milliter lower in the group receiving both drugs, and insulin resistance was also improved.
- After six months, average levels of blood sugar control over a months-long period were lower in the group receiving both drugs (7.06 percent) versus the group receiving just the statin (7.29 percent).

Use of the CETP inhibitor also improved glucose and insulin measurements in study participants without [diabetes](#), although not as much. In addition, the study found that HDL levels had risen 66.8 percent after a year of taking torcetrapib and the statin, compared with minimal change in the other group. It's unclear whether torcetrapib's impact on HDL may account in part for the improvement in diabetic control, the scientists noted.

A key strength of the study, Barter said, is the size of ILLUMINATE. Yet scientists must determine whether the blood sugar effects were due to the drug's CETP inhibition or some other mechanism – an issue that current trials with dalcetrapib and anacetrapib should help clarify, Barter said.

Provided by American Heart Association

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