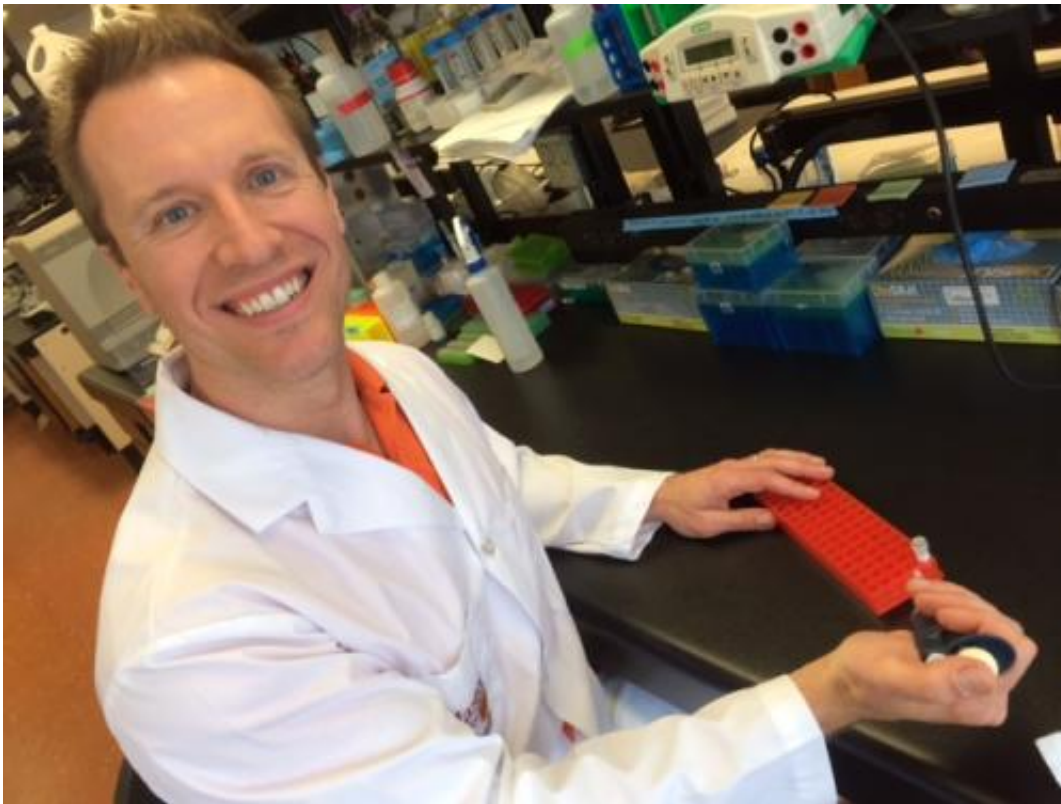


Researchers uncover common heart drug's link to diabetes

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Credit: McMaster University

McMaster University researchers may have found a novel way to suppress the devastating side effect of statins, one of the worlds' most widely used drugs to lower cholesterol and prevent heart disease.

The research team—led by Jonathan Schertzer, assistant professor of

Biochemistry and Biomedical Sciences and Canadian Diabetes Association Scholar—discovered one of the pathways that link [statins](#) to diabetes. Their findings could lead to the next generation of statins by informing potential combination therapies while taking the [drug](#).

Approximately 13 million people, or half of those over the age of 40, could be prescribed a [statin drug](#) in their lifetime.

"Statins are among the most prescribed drugs in the world, and have been fantastic at reducing cardiovascular events," Schertzer says. "But the [side effects](#) of statins can be far worse than not being able to eat grapefruit. Recently, an increased risk of diabetes has been added to the warning label for statin use. This was perplexing to us because if you are improving your metabolic profile with statins you should actually be decreasing the incidence of diabetes with these drugs, yet, the opposite happened."

Schertzer's group investigated further. "We found that statins activated a very [specific immune response](#), which stopped insulin from doing its job properly. So we connected the dots and found that combining statins with another drug on top of it, Glyburide, suppressed this side [effect](#)."

He says the finding has the potential to develop new targets for this immune pathway that do not interfere with the benefits of statins.

"It's premature to say we are going to change this drug, but now that we understand one way it can cause this side effect we can develop new strategies to minimize side effects. This may even include using natural products or nutritional strategies to subvert the side effects of statins," he says.

The next stage of their research is to understand how statins promote diabetes by understanding how they work in the pancreas, which secretes

insulin. They also hope to better understand if this immune pathway is involved in other side effects of statins, such as muscle pain and life-threatening muscle breakdown.

Schertzer emphasizes that statins are important and widely prescribed drugs and understanding how they promote adverse effects may lead to necessary improvements in this drug class, which has the potential to affect a large segment of the population.

"With the new federal [warning label](#) on the risk of [diabetes](#) with statin usage, people are heavily debating its pros and cons. We think this is the wrong conversation to have. Statins are a great drug for many people. What we really should be talking about is how to make them better and we are beginning to understand the basic biology of statins so we can do just that. The next step for our work is to understand if all of the major side effects of statins occur by acting on this specific immune-metabolism pathway."

More information: Paper: diabetes.diabetesjournals.org/...r&submit=yes&x=0&y=0

Provided by McMaster University

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