Diabetes Drug Metformin Tied to Weight Loss in People With HIV

A small study of people with HIV who did not have diabetes also found that 12 weeks of metformin improved gut microbiome health.

August 26, 2020 By Benjamin Ryan

A 12-week course of treatment with the diabetes drug metformin was associated with a decline in body weight and an improvement in the gut microbiome of people living with HIV but not diabetes in a small study, Healio reports.

For the study, Jean-Pierre Routy, MD, a professor of medicine at McGill University in Montreal, and his colleagues enrolled 23 HIV-positive people without diabetes who had been taking antiretroviral treatment for at least two years. All the participants had fewer than 7 CD4 cells for every 10 CD8 cells, meaning a relatively low CD4 to CD8 ratio of below 0.7.

The researchers, who published their findings in Open Forum Infectious Diseases, collected blood and stool samples from the participants upon their entry into the study. They took repeat samples after the participants completed 12 weeks of metformin and again 12 weeks after they discontinued treatment.

Metformin is an oral diabetes medication that helps control blood sugar and also has anti-inflammatory benefits.

Next, the investigators conducted gene sequencing of the participants' gut microbiome, as the community of microorganisms in the intestines is called. They also looked for signs of inflammation in their blood plasma.

The short treatment with metformin was associated with a reduction in body weight among the participants. This weight loss was associated with higher blood levels of growth differentiating factor-15, a protein that helps people feel like they've had enough to eat.

The investigators also found that metformin was associated with an increase in anti-inflammatory bacteria in the gut.

No serious adverse health events occurred among the participants during the study.

The study authors concluded: “A larger randomized, placebo-controlled clinical trial with longer metformin treatment will be needed to further investigate the role of metformin in reducing inflammation and the risk of non-AIDS” health conditions in people with HIV on antiretroviral treatment.

To read the Healio article, click here.

To read the study abstract, click here.

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