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Statin effects on the incidence of major non-cardiovascular disease events among a global cohort of people with HIV: a randomised controlled trial

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Background

The primary use for statin medications is to prevent heart disease (cardiovascular disease) in part through lowering cholesterol levels. However, statins may also have beneficial health effects on other diseases.

Goals of the Study

The goal of this study was to understand effects of statins on major non-cardiovascular disease (non-CVD) events—including cancer, AIDS-defining events*, kidney disease, and liver disease—among people with HIV (PWH) in The Randomized Trial to Prevent Vascular Events in HIV (REPRIEVE). We also reported rates of the Strategic Timing of Antiretroviral Treatment (START) Trial outcome, which measures disease burden (including CVD events) among PWH.

REPRIEVE enrolled PWH between ages 40-75 with low-to-moderate traditional CVD risk. Participants were randomly assigned to take a statin medication called pitavastatin or placebo (a pill that contains no medication) and followed in the study for, on average, 5 years. Main findings from REPRIEVE were that [statin therapy reduced CVD events among PWH by 36%](#), prompting guideline changes recommending statin use in PWH.

*AIDS-defining events are illnesses that are related to AIDS, such as certain infections (e.g. pneumonia) and cancers (e.g. Kaposi sarcoma)

➤ The participants:

- 7,769 REPRIEVE participants (3,888 taking pitavastatin, 3,881 taking placebo)
 - Low-to-moderate traditional CVD risk
 - Median age at enrollment: 50 years
 - 2,419 (31%) women and 5,350 (69%) men

➤ The findings:

- Cancers were the most common non-CVD events, followed by AIDS-defining events. Liver disease and renal (kidney) disease were rare.
- Cancers were also the leading cause of death.
- The most common type of AIDS-defining event was tuberculosis.
- Statin therapy did not appear to prevent non-CVD events.
- Statin therapy did reduce disease burden, measured by the START Trial outcome, mostly by reducing CVD events, as expected given the main findings of REPRIEVE.
- Across Global Burden of Disease (GBD) regions, disease burden, measured by the START outcome, was highest in the South Asia and High Income regions. In South Asia, AIDS-defining events and CVD events were the most common type of START event, whereas in the High Income region, cancer and CVD events were the most common. In sub-Saharan Africa, AIDS-defining events were most common.

In Summary: Among participants in the REPRIEVE cohort of PWH, statin therapy did not appear to prevent major non-CVD events, such as cancer and AIDS-defining events. However, these findings support that the use of statins for CVD prevention in this population is safe with respect to these events. This study also highlights variations in the types of major disease events experienced by PWH across GBD regions. These results should be considered when designing future research studies, guiding efforts to support the health and well-being of individuals aging with HIV.

REPRIEVE Trial Website: reprivetrial.org

The findings shared in this summary are from the REPRIEVE population at a specific point in time. These findings are descriptive and not intended to change clinical care. If you have questions about what you've read, please talk to members of the REPRIEVE study team at your local site or a health care provider