



REPRIEVE



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Ideal Cardiovascular Health, Biomarkers, and Coronary Artery Disease in Persons with HIV

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Background

People with HIV (PWH) on antiretroviral therapy (ART) face increased risks of heart disease as compared to people without HIV. Heart disease risk is commonly assessed by whether a person has certain heart disease risk factors, like high cholesterol, but alternatively, risk can be assessed by cardiovascular health (CVH) through the American Heart Association's Life's Simple 7 (LS7) score.

Goals of the Study

Our goal was to explore the relationship between LS7 score and coronary plaque (fatty build-up in the vessels that supply blood to the heart) among PWH participating in a substudy of the REPRIEVE trial. The REPRIEVE trial is a global clinical research study testing whether treatment with a statin medication (cholesterol-lowering medication) helps prevent heart disease among PWH. REPRIEVE participants at some clinical sites in the U.S. taking part in the substudy undergo all REPRIEVE trial procedures, as well as •CT scans of the blood vessels surrounding the heart and •blood tests to measure levels of markers of inflammation (the body's response to infection).

➤ The participants:

- 735 participants (615 males and 120 females)
- Average age: 51 years

➤ The findings:

1. People with poor CVH as shown by a low LS7 score were more likely to have coronary plaque, vulnerable plaque features, and calcification (hardening of coronary plaque which causes the arteries to become stiff).
2. Poor LS7 was also associated with higher levels of selected immune and inflammatory biomarkers.
3. After adjusting for the potential impact of atherosclerotic cardiovascular disease risk score and inflammatory biomarkers on coronary plaque, this association was reduced but not eliminated.
 - a. This suggests that other factors related to CVH and captured in the LS7 score may help to protect against the development of coronary plaque.
4. Use of LS7 to help guide clinical care and further exploration of its relationships with coronary artery disease may help to reduce cardiovascular morbidity and mortality in PWH.

In Summary: The increased risk of heart disease among PWH has yet to be fully explained. Poor CVH as measured by LS7 was associated with greater presence of coronary plaque, vulnerable features, and calcified plaque, and is also associated with adverse biomarker levels. Cardiovascular health behaviors help protect against the development of coronary plaque through additional pathways. Ongoing efforts to reduce CV morbidity and mortality in PWH may be strengthened by attention to improving CVH and a better understanding of the mechanisms underlying the relationship between CVH and coronary artery disease.

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