

Clinical Coordinating Center
Massachusetts General Hospital
55 Fruit Street, 5LON207
Boston, MA 02114

Data Coordinating Center
Massachusetts General Hospital
165 Cambridge Street Suite 400
Boston, MA 02114

Assessment of Coronary Artery Disease with Computed Tomography Angiography and Inflammatory and Immune Activation Biomarkers Among Adults with HIV Eligible for Primary Cardiovascular Prevention

Udo Hoffmann, Michael Lu, Pam Douglas, Steven Grinspoon, and colleagues

Link to full article: <https://academic.oup.com/cid/advance-article/doi/10.1093/cid/ciab552/6301132?searchresult=1>

Heart disease risk is increased among people with HIV (PWH), however, factors related to this increased risk are not yet fully known. Coronary computed tomography angiography, or CCTA, is an imaging method to look at the coronary arteries (vessels that supply blood to the heart) and to see how much plaque (fatty build up) is in the coronary arteries.

REPRIEVE recruited participants without known heart disease or symptoms to see if statins work to prevent heart disease in this important group. In this analysis, the investigators examined whether plaque was present in a smaller group of the overall study population to understand how plaque relates to heart disease risk factors such as smoking, as well as markers of immune health and inflammation (the body's reaction against infection and injury) in adults with HIV with low-to-moderate heart disease risk.

➤ The participants:

- 755 participants total
- Average age: 51 years
- 16% were natal female (female at birth)
- 35% were black or African American
- 24% were Hispanic or Latino

➤ Presence of coronary plaque:

- About half of the participants had plaque
- Most plaque was very limited, and a significant narrowing was seen in less than 3% of participants
- Participants with plaque had higher levels of certain markers of immune function, which may indicate more inflammation

➤ Participants with plaque were more likely to:

- Be older
- Be male
- Be white
- Have a family history of early heart disease
- Have a history of high blood pressure
- Have increased fasting blood sugar and low-density cholesterol (bad cholesterol) levels
- Smoke cigarettes

Similar to studies of people without HIV, some participants in this substudy of REPRIEVE had coronary plaque. Importantly, in the great majority of participants, coronary plaque did not result in significant narrowing of key arteries of the heart. Doctors are not certain of the medical significance of small coronary plaques, in people without symptoms of heart disease. REPRIEVE will help us to learn if these plaques are important in PWH without a history of heart disease or known symptoms of heart disease, and if pitavastatin (the statin medication studied in REPRIEVE) may affect plaque build-up in the heart over time.



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