Elevated HDL-C is associated with adverse cardiovascular events

Marc Allard-Ratick, MD
Jay Kambhati, MD
Pratik Sandesara, MD
Laurence Sperling, MD, FACC, FAHA, FACP

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Conclusions

• High levels of HDL-C are associated with increased all-cause mortality and adverse cardiovascular events

• Association is likely at levels exceeding 80mg/dL - perhaps higher in females

• Unclear whether effects more pronounced in men vs. women
Background

- HDL-C inversely associated with cardiovascular disease
- Pharmacologic mechanisms to raise HDL-C have generally failed to reduce CV disease incidence
- Recently, a “U” shaped association between HDL-C and adverse CV events and all-cause mortality has been shown
Study Design

Part of the Emory University Cardiovascular Biobank Cohort

5,291 adults undergoing LHC enrolled

Subjects followed median of 4.5 (1.8-6.9) years

Primary Outcomes:
1) All-cause mortality
2) CV death or non-fatal MI

Hypothesis: Very high levels of HDL-C are associated with adverse cardiovascular outcomes in an at-risk population

Background data obtained at enrollment
Figure 1a: Association between HDL-C and all-cause mortality

Triangle Reference HDL-C
45mg/dL

95% confidence interval

*Adjusted for common covariates
Key messages

• HDL cholesterol or “good cholesterol” may not be protective of cardiovascular disease or death, and in fact very high levels may be harmful.

• Patients with very high levels of HDL should consult their physician. While our study shows an increased risk of adverse events in this population, the mechanism remains unclear.

• It is crucial to address other modifiable risk factors such as high blood pressure, smoking, and obesity to reduce cardiovascular disease.