# Polygenic risk score may predict sudden death in some CAD patients

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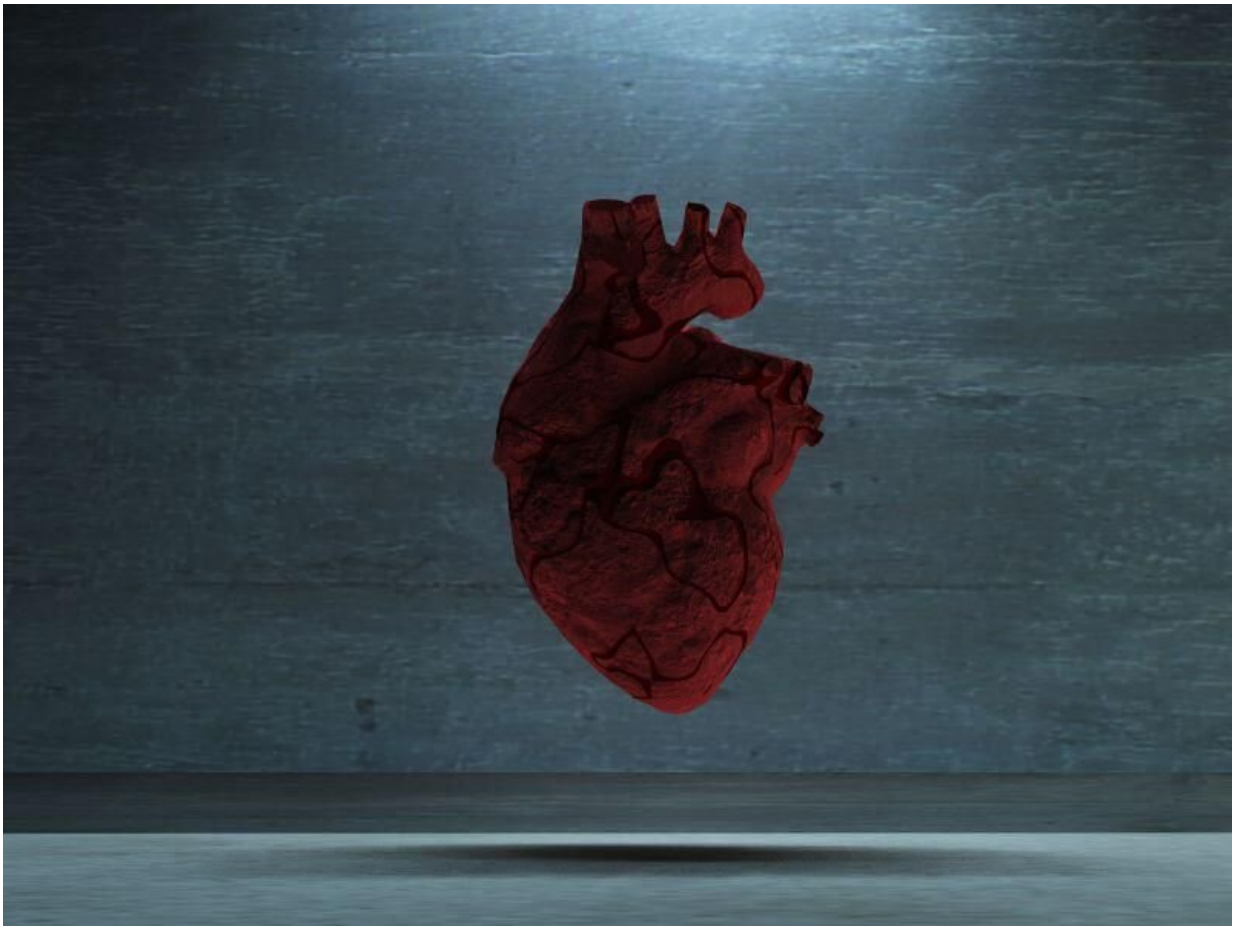

Being in the top decile for the genome-wide polygenic score for

coronary artery disease ($GPS_{CAD}$) is associated with an increased risk for sudden and/or arrhythmic death (SAD) among CAD patients without severe systolic dysfunction, according to a study published in the Aug. 30 issue of the *Journal of the American College of Cardiology*.

Roopinder K. Sandhu, M.D., M.P.H., from the Cedars-Sinai Medical Center in Los Angeles, and colleagues examined whether a $GPS_{CAD}$ would have utility in SAD risk stratification in 4,698 CAD patients without severe systolic dysfunction. The cohort was dichotomized according to top $GPS_{CAD}$ decile, as defined by the general population.

The researchers found that participants in the top $GPS_{CAD}$ decile were at elevated absolute SAD risk (8.0 versus 4.8 percent) and proportional SAD risk (29 versus 16 percent) compared with the rest of the participants during a median follow-up of 8.0 years. The top $GPS_{CAD}$ decile was associated with SAD after controlling for left ventricular ejection fraction, clinical factors, and electrocardiogram parameters, but it was not associated with non-SAD. The addition of the top $GPS_{CAD}$ decile to the multivariable model significantly improved continuous and categorical net reclassification indexes but did not improve the C-index.

"These findings in aggregate suggest that the $GPS_{CAD}$ is a promising method to improve SAD risk stratification in CAD patients who do not currently qualify for an implantable cardioverter-defibrillator, which warrants further study," the authors write.

One author disclosed financial ties to the biopharmaceutical industry.

**More information:** Roopinder K. Sandhu et al, Polygenic Risk Score Predicts Sudden Death in Patients With Coronary Disease and Preserved Systolic Function, *Journal of the American College of Cardiology* (2022). DOI: 10.1016/j.jacc.2022.05.049

Jussi A. Hernesniemi, Dawn of the Era of Individualized Genetic Profiling in the Prevention of Sudden Cardiac Death, *Journal of the American College of Cardiology* (2022). DOI: 10.1016/j.jacc.2022.06.016