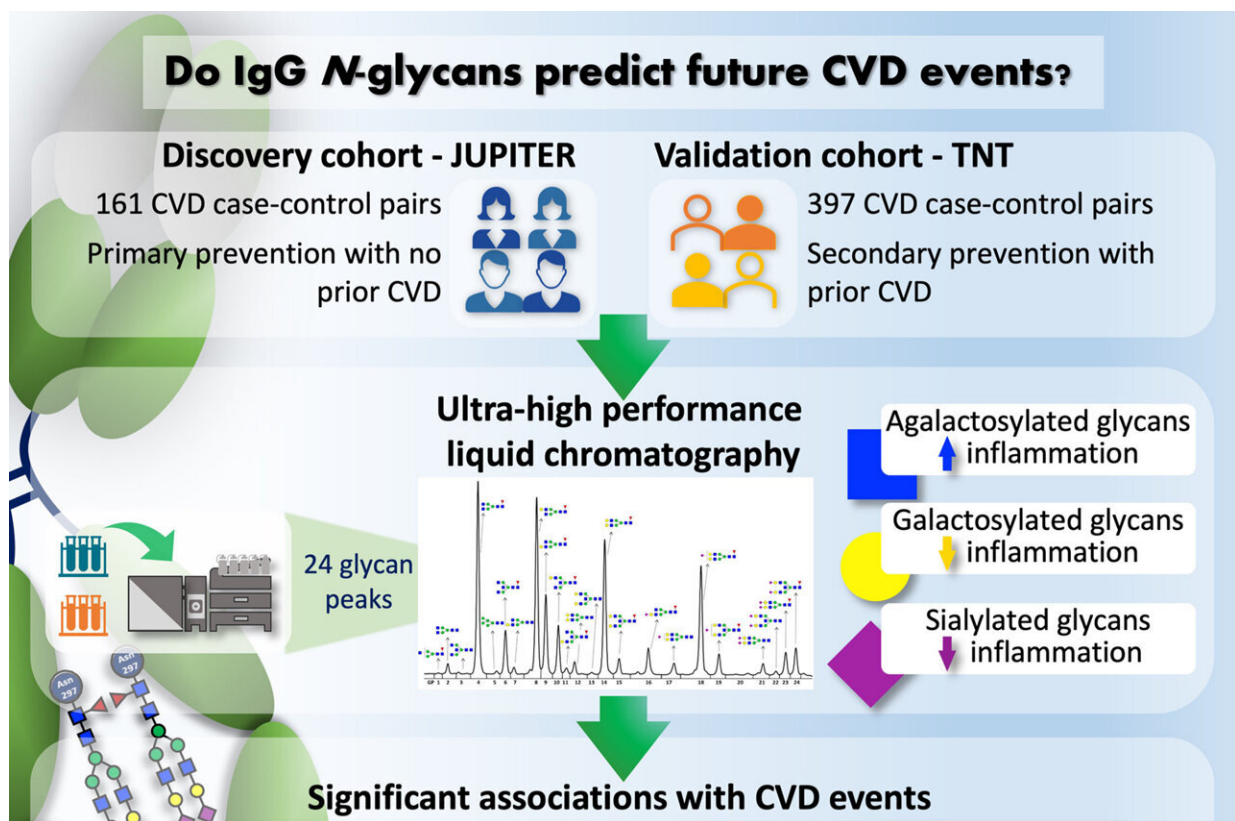


New study shows glycan sugar coating of IgG immunoglobulin can predict cardiovascular health

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Graphical abstract. Credit: *Circulation Research* (2024). DOI: 10.1161/CIRCRESAHA.123.323623

When people hear about predicting heart disease, most will think of

cholesterol levels. While cholesterol is a major contributor to heart disease, a recent study from Brigham and Women's Hospital, a founding member of Mass General Brigham, found that a glycan biomarker of IgG is also an important predictor for cardiovascular diseases (CVD).

The researchers studied the sugar coatings on an antibody known as immunoglobulin G (IgG), which is implicated in the immune responses associated with [chronic inflammation](#) among participants in two case-control studies. The results of this investigation provide another biomarker for identifying the risk of CVD, which could lead to an earlier diagnosis of [heart disease](#) or stroke. Since CVD worsens with time, early diagnosis is crucial to having a better outcome for the patient.

The research team found that the sugar coatings on the IgG were directly related to the risk of a CVD event, most likely through inflammatory effects and that an IgG glycan score predicted future cardiovascular events independent of other risk factors.

"IgG N-glycans, which are the sugar coatings that modify the IgG immunoglobulins, might not be only novel biomarkers for cardiometabolic health, but also potential new drug targets," said Samia Mora, MD, MHS, of the Brigham's Divisions of Preventative and Cardiovascular Medicine. "Our results represent a promising and underappreciated novel biomarker that has great potential for risk stratification, CVD prevention, diagnostics and treatment purposes."

More information: Rosangela A. Hoshi et al, N-Glycosylation Profiles of Immunoglobulin G and Future Cardiovascular Events, *Circulation Research* (2024). [DOI: 10.1161/CIRCRESAHA.123.323623](https://doi.org/10.1161/CIRCRESAHA.123.323623)

Provided by Brigham and Women's Hospital

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