

CARDIOVASCULAR ENDOCRINOLOGY

RAGE—a biomarker for CHD in T2DM?

High levels of two isoforms of RAGE (receptor for advanced glycation end products) are associated with an increased risk of incident coronary heart disease (CHD) in patients with type 2 diabetes mellitus (T2DM), reveal new data of a nested case-control study.

RAGE binds a number of ligands including advanced glycation end products, and this process is implicated in the development of cardiovascular disease in patients with T2DM. Colhoun *et al.* set out to test whether the soluble (sRAGE) or the secreted (esRAGE) isoforms of RAGE could predict future CHD events and stroke in this patient group.

The researchers measured pre-randomization serum levels of the two isoforms of RAGE in samples taken from patients with T2DM who were enrolled in a previous trial of statin therapy and who experienced incident cardiovascular events during a median follow up of 3.9 years. These patients were compared with randomly selected controls; three controls for each case were included.

The levels of sRAGE and esRAGE were highly correlated, and were elevated in patients with low BMI, low estimated glomerular filtration rate and high adiponectin levels. Ethnicity also affected the levels of RAGE isoforms, which were higher in white patients than in other ethnic groups. Although no association was found between cardiovascular events taken as a whole and sRAGE or esRAGE levels, higher levels of both isoforms were associated with an increased risk of a CHD events. By contrast, no significant association was found between levels of RAGE isoforms and stroke risk.

According to the authors, these findings suggest that these RAGE isoforms might be biomarkers for CHD in T2DM, although further analysis is needed.

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Original article Colhoun, H. M. *et al.* Total soluble and endogenous secretory receptor for advanced glycation endproducts as predictive biomarkers of coronary heart disease risk in patients with type 2 diabetes: an analysis from the CARDS trial. *Diabetes* doi:10.2337/db11-0291