VASCULAR DISEASE

High plasma renin activity linked to increased risk of death

A new study has shown that high plasma renin activity (PRA) is an independent predictor of death from a cardiovascular cause in high-risk patients with stable atherosclerosis and/or diabetes mellitus.

Investigators assessed baseline blood samples taken from 2,913 Canadian patients enrolled in the HOPE study, of whom 94% had coronary, peripheral, or cerebrovascular disease and 34% had diabetes. The median baseline PRA was 0.82 ng/ml/h. Patients with high PRA were more likely to have a history of diabetes or known cardiovascular disease and be taking diuretics. Patients with lower PRA were more likely to be taking β -blockers.

Patients who died from any cause and those who died from a cardiovascular cause during follow-up (median 4.5 years) had higher median baseline PRA than those who did not (0.93 ng/ml/h vs 0.81 ng/ml/h and 0.90 ng/ml/h vs 0.81 ng/ml/h, respectively). Compared with patients in

the lowest quintile for baseline PRA, those in the highest quintile had increased risk of death (hazard ratio [HR] 1.53, 95% CI 1.10–2.13, $P=0.01$) and of the composite end point of myocardial infarction, stroke, or death from a cardiovascular cause (HR 1.38, 95% CI 1.03–1.86, $P=0.03$). Both of these risk increases were determined to result from increased risk of death from cardiovascular causes (HR 1.89, 95% CI 1.17–3.05, $P=0.01$). The risk of cardiovascular-related death was increased even after adjustment for use of therapies known to modulate PRA.

The investigators conclude that “PRA may thus represent a novel risk marker in this population”.

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Original article Verma, S. *et al.* Plasma renin activity predicts cardiovascular mortality in the Heart Outcomes Prevention Evaluation (HOPE) study. *Eur. Heart J.* doi:10.1093/eurheartj/ehr066