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CVD biomarkers respond better to Telmisartan than non-ARB blood pressure meds

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When it comes to treating high blood pressure, not all anti-hypertensive medications are equal, and results of the ATTEMPT-CVD trial suggest that telmisartan, an angiotensin II receptor blocker (ARB) might have benefits over non-ARB treatment.

The Hot Line results, presented at ESC Congress 2015 today, and published simultaneously in the *European Journal of Preventive Cardiology*, are the first evidence that ARBs may have a better impact on two biomarkers of cardiovascular disease (CVD) compared to non-ARBs, said lead investigator Hisao Ogawa, MD, from Kumamoto University, in Kumamoto City, Japan.

However, the trial did not show a significant difference between the treatments in either cardiovascular or renal events.

ATTEMPT-CVD measured the impact of both telmisartan and non-ARBs on urinary albumin creatinine ratio (UACR) and plasma brain natriuretic peptide (BNP).

Patients with hypertension from 168 institutions in Japan were randomised to receive telmisartan (n=615) or a non-ARB antihypertensive drug (n=613) and followed for three years.

The primary efficacy endpoints were changes from baseline in UACR

and plasma BNP levels. Elevations in either of these biomarkers are considered risk factors for CVD.

Secondary endpoints were changes in other biomarkers, including serum high-sensitivity C-reactive protein (hsCRP) levels, urinary 8-hydroxy-deoxy-guanosine (8-OHdG), serum adiponectin, estimated glomerular filtration rate (eGFR), and high-molecular weight adiponectin levels.

Another secondary endpoint was time until occurrence of a composite of cardiovascular events consisting of cerebral events, coronary events, cardiac events, aortic/peripheral arterial events, complication of diabetes, and aggravation of renal function.

The study found that, despite similar blood pressure control in both arms, patients treated with the ARB had a smaller increase in plasma BNP and a greater decrease in UACR than non-ARB treated patients.

By 36 months, UACR had decreased by12.2 mg/g Cr in the ARB group compared to a decrease of 4.1 mg/g Cr in the non-ARB group (P

Similarly, plasma BNP had increased by 0.5 pg/ml in the ARB group and by 3.8 pg/ml in the non-ARB group (P = 0.044).

Fewer cardiovascular events occurred in the ARB group, but the difference was not statistically significant (hazard ratio 0.71, P = 0.14).

Other biomarkers were not different between the two groups except for serum adiponectin, which showed a larger increase (P = 0.041), indicating better CVD health, and eGFR which showed a larger decrease (P

"It is well known that a slight but significant decrease in eGFR is not associated with poor outcome and may not be clinically relevant," noted

Dr. Ogawa. In fact, the study showed that baseline levels of UACR and plasma BNP levels were associated with cardiovascular risk, but adiponectin and eGFR levels were not.

"Further study is needed to determine the significance of follow-up of BNP and UACR for cardiovascular and renal risk in hypertensive patients," he concluded.

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