

True VALUE of reducing new-onset diabetes

To the Editor—In his insightful commentary on the implications of the VALUE (Valsartan Antihypertensive Long-term Use Evaluation) trial, Cheung¹ emphasised the paramount importance of meticulous blood pressure control and suggested that debating which antihypertensive drug is best is only of commercial interest. In my opinion, making a clear distinction between which is the most appropriate antihypertensive therapy to initiate remains important as far as incidence of new-onset diabetes is concerned.

Angiotensin receptor blockers (ARBs) are known to improve insulin resistance whereas calcium channel blockers have neutral effects on glucose metabolism. Hence it is not surprising that in the VALUE trial, incidence of new-onset diabetes was significantly lowered in the valsartan-treatment group in comparison with the amlodipine-treatment group (by 23%). Significantly, in the VALUE trial, the valsartan group had a greater proportion of patients on concurrent thiazide diuretics. Despite the well-known negative impact of thiazide diuretics on glucose metabolism, the valsartan group had a lower incidence of new-onset diabetes.² This observation underlies the superior effects of renin-angiotensin blockade on glucose metabolism. However, is this favourable metabolic effect relevant as far as solid cardiovascular endpoints are concerned?

Until recently, little was known regarding the prognostic impact of new-onset diabetes in hypertensive subjects with initially normal glucose tolerance. The results of a recent long-term cohort study by Verdecchia et al³ provide invaluable insight. A large number (n=795) of untreated hypertensive were followed up for 1 to 16 years (median, 6.0 years). New diabetes occurred in 5.8% of subjects initially without diabetes. Of these subjects who developed diabetes, 53.5% received a diuretic as antihypertensive therapy, compared with 30.4% of those in whom diabetes

did not develop. The relative risk of developing a first cardiovascular event is significantly higher in the group who developed new diabetes compared with the group persistently free of diabetes after adjusting for other confounders.³ These results clearly have a practical implication: the risks of new-onset diabetes should be factored into recommendations of antihypertensive therapy to reduce the overall cardiovascular risk.

In the midst of a growing epidemic of obesity in Asia, many overweight hypertensive subjects have undiagnosed impaired glucose tolerance.⁴ The use of ARBs in these individuals may significantly decrease their risk of developing overt type 2 diabetes, thereby further reducing their overall cardiovascular risk.

NN Chan, MD, FHKAM (Medicine)
(e-mail: norman.chan@qualigenics.com)
Qualigenics Diabetes Centre
Upper level, Pier 3
11 Man Kwong Street
Central
Hong Kong

References

1. Cheung BMY. Sartans for hypertension—implications of the Valsartan Antihypertensive Long-Term Use Evaluation (VALUE) trial. *Hong Kong Med J* 2004;10:359.
2. Julius S, Kjeldsen SE, Weber M, et al. Outcomes in hypertensive patients at high cardiovascular risk treated with regimens based on valsartan or amlodipine: the VALUE randomised trial. *Lancet* 2004;363:2022-31.
3. Verdecchia P, Reboldi G, Angeli F, et al. Adverse prognostic significance of new diabetes in treated hypertensive subjects. *Hypertension* 2004;43:963-9.
4. Modan M, Halkin H, Almog S, et al. Hyperinsulinemia: A link between hypertension, obesity and glucose intolerance. *J Clin Invest* 1985;75:809-17.