



Special Issue: Current evidence and perspectives for hypertension management in Asia

# Target organ damage for the management of hypertension in the Asian population

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The goal of hypertension management is to prevent cardiovascular morbidity and mortality. To achieve this goal, the blood pressure guidelines recommend accurate blood pressure monitoring and assessment of target organ damage [1]. This issue provides a new report about target organ damage in the Asian population.

Chronic kidney disease (CKD) is strongly associated with not only end-stage renal disease but also with cardiovascular events. Hypertension and diabetes are known to be important risk factors for CKD incidence. However, there is insufficient evidence regarding whether the combination of hypertension and diabetes is associated with the risk of CKD incidence compared to hypertension or diabetes alone. Kaneyama et al. investigated the association between hypertension or diabetes or both and CKD incidence in 5823 Japanese individuals who underwent a specific check-up [2]. The results showed that the comorbidity of hypertension with diabetes was significantly associated with CKD incidence. Moreover, hypertension alone was also associated with CKD incidence, while this finding was not observed for diabetes alone. To understand the pathological mechanism for the association between hypertension and CKD, Haruhara et al. presented an interesting review considering the number of nephrons and podocytes [3].

Zhang et al. reported that individuals with a high high-sensitivity C-reactive protein (hs-CRP) level ( $\geq 3$  mg/dL) had a 24% higher risk of the presence of carotid artery plaque assessed by carotid echography compared to those with a low

hs-CRP level ( $< 1$  mg/dL) [4]. The risk of cardiovascular events caused by a higher hs-CRP level has been acknowledged, especially in western populations. Interestingly, the hs-CRP level in the Asian general population was lower than that in the western general population [5]. Although the reason is not clear, the results of Zhang et al. further supported that a higher hs-CRP level is a risk factor for cardiovascular events, even in the Asian population.

Zheng et al. investigated the association between rate pressure product values from seven visits over a 30-year follow-up period and left ventricular hypertrophy (LVH) evaluated by the Cornell voltage criteria of electrocardiography [6]. The results demonstrated that rate pressure product trajectories from early life (baseline average age, 11 years) were associated with LVH in midlife. We recently reported that left ventricular mass index assessed by echocardiography had the most prognostic power compared to independent target organ damage or the home blood pressure level [7]. Assessment of LVH is important for the prevention of cardiovascular events even in the era of managing hypertension, mainly with home blood pressure monitoring.

This assessment would be useful for a better understanding of target organ damage in the management of hypertension in the Asian population.

## Compliance with ethical standards

**Conflict of interest** The authors declare no competing interests.

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