



## Original article and review highlighted in this month of Hypertension Research

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This month, several interesting review papers have been published. Primary aldosteronism is recognized as one of the significant contributors to secondary hypertension, given that patients tend to develop resistant hypertension and cardiovascular disease compared to those with essential hypertension. Wang et al. provided a comprehensive review of primary aldosteronism (PA), emphasizing the importance of early diagnosis and tailored management strategies for reducing the burden of cardiovascular disease [1]. Artificial intelligence (AI) and machine learning (ML) are introducing innovative changes to the medical field, and hypertension management is no exception. Kohjitani et al. presented an intriguing review paper discussing recent advancements in machine learning modeling methods for treating hypertension [2].

The field of preeclampsia still has many unresolved issues. In this month's issue, we provide new three insights. Ishikuro et al. investigated in pregnant women the association between blood pressure (BP) control and adverse perinatal outcomes, such as perinatal and fetal deaths, small for gestational age, low birth weight, and preterm birth [3]. In this study, most of individuals were normal BP defined by <140/90 mmHg without antihypertensive medication (17476/18155 = 96.3%). Compared to this normal BP group, both high BP ( $\geq 140/90$  mmHg) group and uncontrolled BP under antihypertensive treatment group had a higher risk of adverse perinatal outcome. However, this association was attenuated in the group with controlled BP

under antihypertensive treatment [3]. Paiboonborirak et al. reported that the combination of serum fatty acid binding protein-4 (FABP4) levels greater than 1.0 with the abnormal mean pulsatility index of the uterine artery (greater than 95th percentile) at gestational age 11–13(+6) weeks predicted preeclampsia [4]. Ohkuchi et al. reported that the combination between the measurement of placental growth factor at 9–13 weeks of gestation and prevalent chronic hypertension or history of preterm preeclampsia/gestational hypertension had high sensitivity (80.0%) and specificity (85.7%) to predict preterm preeclampsia [5].

The lifestyle of parents may be associated with the risk of hypertension in children. Ito et al. investigated the association between the estimated intakes of sodium (Na) and potassium (K) from urine samples of primary school children and socioeconomic status of their mothers [6]. This result showed that Na and K excretion of children were not associated with educational levels of mothers and household incomes, while in mothers lower household income provided Na excretion and urinary Na/K ratio.

In the management of hypertension, some clinical examination and assessment of organ damage are performed. In this month's issue, we provide three papers related to clinical examination and organ damage for hypertension. Salim et al. reported the association between serum uric acid (UA) level and a risk of future hypertension according to sex [7]. In men, the threshold of UA level for a risk of hypertension was 6.5 mg/dl, and that in women was 6.0 mg/dl. Chu et al. investigated the association between the reduction in BP and left ventricular hypertrophy (LVH) regression followed by the interval of 6–18 months and whether there is a difference impact in this association according to age [8]. The results showed that the regression in LVH was steeper in younger group (<65 years) than older group ( $\geq 65$  years). Interestingly, the association between LVH regression and lower risk of cardiovascular events was similar in both younger and older groups [8].

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Tain et al. reported that the combination of brachial-ankle pulse wave velocity (baPWV) with visit-to-visit BP variability had good prognostic power for the development of cardiovascular disease [9].

Lifestyle medication is an important treatment for hypertension irrespective of under antihypertensive treatment. Although smoking cessation prevent hypertension, Ninomiya et al. reported that smoking cessation gained more weight and higher BP compared to the continues smoking group [10]. Quio et al. performed reported a randomized controlled trial whether health coaching provides BP reduction compared to usual care. Briefly, the method of health coaching is that experienced doctors and nurses served as health coaches, having undergone training in patient-centered communication and behavior change skills. The intervention was divided into three stages—initial, core, and maintenance—wherein each session involved setting objectives with participants and exploring motivation for behavior change. The result showed that health coaching group reduced BP, body mass index and improved the score of self-management and medication literacy compared to control group [11].

### Compliance with ethical standards

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

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