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EDITORIAL

Intriguing review and topics in this month of Hypertension Research

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In this month, two review papers have been reported from HOPE Asia Network, which is the organization that has been instituted since 2016 and announce several statement to improve the management of hypertension and organ protection toward achieving "zero" cardiovascular events in Asia [1–3]. One is focused on the pathophysiology of Alzheimer's disease through the linkage between sleep apnea and abnormal circadian blood pressure rhythm [4]. Authors have reviewed this linkage from the point of autonomic dysfunction. Another is focused on the association between cognitive impairment and heart failure [5]. Heart failure often complicated with cognitive impairment, and vice versa. Authors have reviewed this linkage from the point of abnormal circadian blood pressure rhythm.

Yeo et al. reported the prevalence and characteristics of true resistant hypertension in Malysia [6]. That results showed that its prevalence was higher than we expected. It is important issue how to tackle resistant hypertension. Physical activity and lifestyle are closely related to uncontrolled hypertension. In this issue, Zhou et al. reported that higher walking speed assessed by the usual gait in a 2.5 m course was associated with a lower risk of hypertension, especially in Chinese overweight and obese individuals [7]. Han et al. reported that higher magnesium intake was associated with the low prevalence of hypertension in cross-sectional analysis using NHANES data [8]. Primary aldosteronism is one of important cause of resistant hypertension. In this issue, Zhou et al. reported that percutaneous superselective adrenal arterial embolization provided the effective for blood pressure (BP) reduction compared with the treatment of mineralocorticoid receptor antagonists in treating patients with idiopathic hyperaldosteronism [9]. Although this treatment has not been generalized in clinical practice, it may be a promising treatment in the future. Renal denervation is also a promising treatment for resistant hypertension, however, concerning this treatment, there have been reports of varying the response of BP reduction, with some individuals showing greater success while others find it more challenging to benefit from. In this issue, Gunes-Altan et al. reported that low skin Na assessed by Na content Na magnetic resonance imaging (MRI) provided a greater BP reduction after renal denervation [10]. Most recently, Food and Drug Administration approved that two renal denervation system is indicated to reduce BP as an adjunctive treatment in patients with hypertension in whom lifestyle modifications and antihypertensive medications do not adequately control BP. Hypertension Research has continued to be a special issued of renal denervation.

Ide et al. reported that increased systolic BP, diastolic BP, and mean BP were associated with a risk of the progression of cerebral small vessel diseases examined by MRI in healthy cohort population [11]. These findings confirm the result of previous studies. On the other hand, Liu et al. reported that diastolic BP between 90–110 mmHg was the lowest risk of composite vascular event among the groups divided by <90, 90–110, ≥110 mmHg of diastolic BP in the patients with minor ischemic stroke and antiplatelet treatment [12]. Although there may be partly discrepancy between these two studies, Maruhashi et al. reported that the percentage of mean arterial pressure which is automatically calculated from pulse wave volume waveform was associate with the presence of coronary artery disease [13]. Moreover, Yatsu et al. reported that overnight increased arterial stiffness assessed by cardio-ankle vascular index was associated with the severity of sleep-disordered breathing and obstructive respiratory event in heart failure patients [14]. Thus, the analysis of detail indexes of pressure wave form

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components related to arterial stiffness may have clinical significance in the future.

Compliance with ethical standards

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References

1. Kario K, Tomitani N, Wang TD, Park S, Li Y, Shin J. et al. Home blood pressure-centered approach—from digital health to medical practice: HOPE Asia Network consensus statement 2023. Hypertens Res. 2023;46:2561–74.
2. Kario K, Wang JG, Chia YC, Wang TD, Li Y, Siddique S, et al. The HOPE Asia network 2022 up-date consensus statement on morning hypertension management. J Clin Hypertens. 2022;24:1112–20.
3. Kario K, Chia YC, Siddique S, Turana Y, Li Y, Chen CH, et al. Seven-action approaches for the management of hypertension in Asia—The HOPE Asia network. J Clin Hypertens. 2022;24:213–23.
4. Nagai M, Dote K, Park S, Turana Y, Buranakitjaroen P, Cheng HM, et al. Obstructive sleep apnea and non-dipper: epiphenomena or risks of Alzheimer's disease?: A review from the HOPE Asia Network. Hypertens Res. 2023. https://doi.org/10.1038/s41440-023-01440-6.
5. Komori T, Hoshide S, Turana Y, Sogunuru GP, Kario K. Cognitive impairment in heart failure patients: association with abnormal circadian blood pressure rhythm: a review from the HOPE Asia Network. Hypertens Res. 2023. https://doi.org/10.1038/s41440-023-01423-7.
6. Yeo JJP, Yeo LS, Tan SSN, Delailah D, Lee SWH, Hu ATH, et al. Prevalence of true resistant hypertension in those referred for uncontrolled hypertension in Malaysia: A comparison using different definitions. Hypertens Res. 2023. https://doi.org/10.1038/s41440-023-01418-4.
7. Zhou B, Fang Z, Zheng G, Chen X, Liu M, Zuo L, et al. The objectively measured walking speed and risk of hypertension in Chinese older adults: a prospective cohort study. Hypertens Res. 2023. https://doi.org/10.1038/s41440-023-01438-0.
8. Han M, Zhang Y, Fang J, Sun M, Liu Q, Ma Z, et al. Associations between dietary magnesium intake and hypertension, diabetes, and hyperlipidemia. Hypertens Res. 2023. https://doi.org/10.1038/s41440-023-01439-z.
9. Zhou Y, Wang X, Hou J, Wan J, Yang Y, Liu S, et al. A controlled trial of percutaneous adrenal arterial embolization for hypertension in patients with idiopathic hyperaldosteronism. Hypertens Res. 2023. https://doi.org/10.1038/s41440-023-01420-w.
10. Guenes-Altan M, Schmid A, Kannenkeril D, Linz P, Ott C, Bosch A, et al. Skin sodium content as a predictor of blood pressure response to renal denervation. Hypertens Res. 2023. https://doi.org/10.1038/s41440-023-01450-4.
11. Ide T, Yakushiji Y, Suzuyama K, Nishihara M, Eriguchi M, Ogata A, et al. Associations for progression of cerebral small vessel disease burden in healthy adults: the Kashima scan study. Hypertens Res. 2023. https://doi.org/10.1038/s41440-023-01419-3.
12. Liu T, Wang Y, Li Y, Zhang K, Fan H, Ren J, et al. Minor stroke patients with mild-moderate diastolic blood pressure derive greater benefit from dual antiplatelet therapy. Hypertens Res. 2023. https://doi.org/10.1038/s41440-023-01422-8.
13. Maruhashi T, Kajikawa M, Kishimoto S, Yamaji T, Harada T, Hashimoto Y, et al. Percentage of mean arterial pressure as a marker of atherosclerosis for detecting patients with coronary artery disease. Hypertens Res. 2023. https://doi.org/10.1038/s41440-023-01442-4.
14. Yatsu S, Kasai T, Naito R, Matsumoto H, Murata A, Shitara J, et al. Impact of sleep-disordered breathing on overnight changes in arterial stiffness in patients with acute heart failure. Hypertens Res. 2023. https://doi.org/10.1038/s41440-023-01448-y.