



Reply to a letter to the editor regarding “Short stature is associated with low flow-mediated vasodilation in Japanese men”

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To the Editor:

We thank Dr. Murakami and Dr. Shiraishi for their interest in our article showing an association of body height with endothelial function assessed by flow-mediated vasodilation [1]. Although the greater-height groups were significantly associated with a decreased risk of a low quartile of FMD compared with the <155.0 cm group even after adjustment for various confounders for flow-mediated vasodilation, the mechanism underlying the inverse relationship between body height and flow-mediated vasodilation and the connection between body height and flow-mediated vasodilation remain unclear. As noted, we previously showed an inverse relationship between the augmentation index and flow-mediated vasodilation [2]. Unfortunately, in the present study, we did not have data on the augmentation index. From the constitutive equation for deriving the augmentation index and the present results, we agree with their speculation on an inverse correlation between body height and the augmentation index in our study. There seems to be no doubt that there is a close association among height, augmentation index, and flow-mediated vasodilation, regardless of the cause or consequence of the relationship between the augmentation index and flow-mediated vasodilation. We will attempt to confirm the relationship

between body height and augmentation index in a future study. In addition, future studies are needed to establish a clear reference value for the augmentation index due to the use of multiple noninvasive central blood pressure measurement methods and a clear cutoff value for increased cardiovascular risk. The role of body height in the cutoff value for cardiovascular disease and cardiovascular events should also be confirmed.

Compliance with ethical standards

Conflict of interest The authors declare no competing interests.

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References

1. Harada T, Kajikawa M, Maruhashi T, Kishimoto S, Yamaji T, Han Y, et al. Short stature is associated with low flow-mediated vasodilation in Japanese men. *Hypertens Res.* 2022;45:308–14.
2. Soga J, Nakamura S, Nishioka K, Umemura T, Jitsuiki D, Hidaka T, et al. Relationship between augmentation index and flow-mediated vasodilation in the brachial artery. *Hypertens Res.* 2008;31:1293–8.

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