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Comment On: Evaluation of Left Ventricular Systolic Functions of Patients with Exaggerated High Blood Pressure Response to Treadmill Exercise Test with Two-Dimensional Longitudinal Strain Imaging

LETTER TO THE EDITOR

To the Editor,

The article by Geneş et al[1] entitled "Evaluation of left ventricular systolic functions of patients with exaggerated high blood pressure response to treadmill exercise test with two-dimensional longitudinal strain imaging" was read with great interest. The authors are congratulated for their valuable contribution. Some additional comments are to be made.

Although the pathophysiology of exaggerated hypertensive response has not been fully understood, endothelium-dependent vasodilation in response to systolic wall shear stress during exercise has plausible mechanisms to explain this phenomenon.[2] Arterial stiffness and impairment of endothelial function should be considered as the mechanism of exaggerated hypertensive response (EHR) in older populations. In the current study, the age of the population was 49.86 ± 10.97 years in the EHR group. It can be said that the patients were relatively young for arterial stiffness and impairment of endothelial function.[2] In addition,flow mediated dilation (FMD) examination may be recommended for patients for identification of endothelial dysfunction.

In the current study, between the control and EHR groups, left atrium (LA) was similar; however, left atrial volume index (LAVI) was different. LAVI is calculated from left atrium diameters and body surface area. Although body surface area (BSA) was not included in the data, BMI and BSA are calculated with the same parameters.[3] Therefore, the reason that LAVI values were different could be explained in more detail.

Theoretically, EHR may result in global subendocardial ischemia due to a mismatch between demand and supply from pressure stress.[4,5] In the current study, left ventricle (LV) strain values are within normal limits. Reducing the levels of LV strain parameters within the normal range might not indicate subclinical LV dysfunction. The chance factor for statistical significance cannot be excluded, so it is recommended to increase the population number.

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