

## Left Ventricle Mass Index, a Confounding Variable of Global Longitudinal Strain to be Noticed

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### Dear Editor,

We read with great interest the article entitled as “Strain Analysis of Left Ventricular Function in the Association of Hypertrophic Cardiomyopathy and Systemic Arterial Hypertension”. In this paper, the authors evaluated the global longitudinal strain (GLS) of the left ventricle (LV) in two distinct groups: patients with hypertrophic cardiomyopathy (HCM) and patients with HCM and systemic arterial hypertension (SAH) and demonstrated that GLS was lower in the second group. This important finding may indicate greater impairment of LV function in patients with SAH and HCM.<sup>1</sup>

### Keywords

Ventricular Function, Left; Cardiomyopathy, Hypertrophic; Hypertension; Strain; Heart Failure; Hypertrophy, Left Ventricular.

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However, despite these findings, it is important to notice the impact of the LV mass on the GLS, unfortunately not reported by the authors. A previous study by Soufi Taleb Bendiab et al.<sup>2</sup> showed that hypertensive patients with LV hypertrophy had a reduced GLS.<sup>2</sup> Moreover, in the study of López-Candales et al.<sup>3</sup> patients with increased LV mass had a significant reduced GLS.<sup>3</sup> From a mechanical point of view of a physiological heart model validated by echocardiography, the volume of heart tissue is constant throughout the cardiac cycle, since it is incompressible.<sup>4</sup> In that way, patients with increased LV thickness would have less longitudinal myocardial deformation.<sup>3</sup>

Since the population of this study were patients with hypertrophic cardiomyopathy with or without hypertension, the measurement of LV mass becomes even more important to report an accurate multivariate analysis and to measure the impact of this important confounder on the study's conclusions.

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