

Editorial



Prognostic Implications of Left Ventricular Global Longitudinal Strain in Dilated Cardiomyopathy

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Conflict of Interest

The authors have no financial conflicts of interest.

Dilated cardiomyopathy (DCM) is a progressive myocardial disorder affected by a broad range of genetic and acquired factors. Echocardiography is the first-line diagnostic modality which defines the severity of the ventricular dysfunction and dilatation, and identifies prognostic characteristics. With recent technical advances in echocardiography, global longitudinal strain (GLS) has been proved as a more sensitive measure of systolic function than left ventricular ejection fraction (LV EF) and shown to be useful in identifying sub-clinical LV dysfunction in patients with cardiomyopathies.¹⁾ Moreover, it has been demonstrated as a predictor of outcomes in patients with heart failure with reduced EF.²⁾ LV reverse remodeling (LV RR) defined as an improvement in LV EF and reduction in LV dimension has been established as a prognostic factor in patients with DCM.^{3,4)} However, prognostic stratification of patients with DCM still remains challenging since it is known as a dynamic disease with a poorly predictable clinical course.

In this issue of Journal of Cardiovascular Imaging, Jung et al.⁵⁾ demonstrated that LV GLS assessed at the time of diagnosis independently predicted LV RR in patients with DCM in sinus rhythm. Under the authors' multivariate model including initial EF, LV dimension and medications, etc, patients who showed higher baseline GLS presented better LV functional recovery which lead to lower adverse clinical events. It is well known that the myocardial injury affects the longitudinal fibers in the subendocardium first.⁶⁾ Although LV EF appears the same, the degree of myocardial fibrosis which is related to reversibility could be at different levels. The authors suggested that it can be discriminated by GLS from speckle-tracking analysis of echocardiography supporting previous findings of the association between areas of late gadolinium enhancement by cardiac MRI and LV GLS.⁷⁾ However, they failed to prove the value of baseline LV GLS by itself on long-term clinical prognosis in DCM patients. As was mentioned in the article, this study has limitations in representing the whole spectrum of DCM patients since the patients with Atrial fibrillation or severe mitral regurgitation were excluded. In addition, right ventricular function normalization, which was known as a predictor to LV RR,⁸⁾ was not explored and the impact of left bundle branch block should need more careful attention. Nevertheless, there proved different recovery responses to medical therapy according to the subtle difference in LV GLS at baseline even with similar

EFs. Following comprehensive integrated study is required for clarifying roles of baseline GLS on prognostic stratification of patients with DCM to build a tailored management strategy.

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