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Response to Invited Commentary

Rasmussen-Torvik et al. Respond to "The Perfect Measure of Diastolic Dysfunction"

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We thank Drs. Pandey and Berry for providing insightful commentary (1) on our study (2), which demonstrated poor overlap among currently used definitions of diastolic dysfunction (DD) in a middle-aged cohort. Pandey and Berry caution against a strategy of trying to find "perfect" echocardiographic criteria for DD and urge that investigators consider the incorporation of blood-based markers and exercise capacity into the definition of DD (1), as these markers can help place echocardiographic measurements into proper context from a clinical point of view.

We agree with Pandey and Berry about the importance of not fixating on a "perfect" definition of DD. Even an imperfect definition of DD could still be a critically important phenotype clinically if it were found to be a strong risk factor for heart failure with preserved ejection fraction (HFpEF) and amenable to treatment for the prevention or delay of HFpEF development. It may be that one of the existing definitions of DD examined in our paper (3–5) is highly predictive of future HFpEF or that incorporation of blood markers, exercise capacity, or another variable will be required to achieve good future HFpEF prediction. In the Multi-Ethnic Study of Atherosclerosis, for example, we are currently performing dynamic echocardiography to study whether the addition of left atrial strain (measured by speckle-tracking analysis) at rest and during a passive leg-raise maneuver augments echocardiographic definitions of DD. However, until such time as studies demonstrating which DD phenotypes are predictive of future HFpEF can be completed, we urge investigators to be cognizant of the limitations of the current definitions and understand that they are not interchangeable. For those proposing new definitions of DD, we encourage definitions that are easy to implement in large population studies, as these are the studies needed to establish associations between DD in middle age and subsequent development of HFpEF.

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Conflict of interest: none declared.

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