

Editorial



Impact of Updated Guidelines on Diastolic Dysfunction in Patients with Preserved Ejection Fraction

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► See the article “Impact of Updated 2016 ASE/EACVI VIS-A-VIS 2009 ASE Recommendation on the Prevalence of Diastolic Dysfunction and LV Filling Pressures in Patients with Preserved Ejection Fraction” in volume 29 on page 31.

Received: Oct 25, 2020

Revised: Nov 25, 2020

Accepted: Dec 6, 2020

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Conflict of Interest

The author has no financial conflicts of
interest.

Left ventricular (LV) diastolic dysfunction (DD) is regarded as a process of aging in the general population¹⁾ and plays a role in progression to heart failure with preserved ejection fraction (HFpEF). Because the past 2009 guidelines for DD used multiple diastolic parameters, these were difficult to apply to various types of cardiac patients. Relatively new 2016 guidelines use fewer parameters, and the classification of DD is easier than with the previous 2009 guidelines. The updated 2016 American Society of Echocardiography/ European Association of Cardiovascular Imaging guidelines committee emphasized the need to simplify the diagnosis and classification of DD in daily clinical practice, and recommended using the most feasible and reproducible parameters of diastolic function and hierarchically organized algorithms.²⁾³⁾

According to the result from S et al.,⁴⁾ the prevalence of DD using the 2016 recommendations was significantly lower compared to the 2009 recommendations (9.4% vs. 19.4%) in 500 consecutive adult patients with preserved ejection fraction. This occurred at the expense of an increase in prevalence of indeterminate diastolic function (9.8%). There was a moderate agreement between 2009 and 2016 recommendations (Kappa = 0.569). Previously reported prevalence by Sorrentino et al.⁵⁾ was similar to this report at 10.7% and 21.6%, according to the 2016 and 2009 recommendations respectively.

Another point from S et al.⁴⁾ was the reclassification of grade 1 and 2 DD; albeit, grade 3 DD remained in the same class by application of the 2016 recommendations. All patients with grade 1 DD and the majority of patients with grade 2 DD by the 2009 recommendations were reclassified to lower grades or ‘indeterminate’ diastolic function by the 2016 recommendations. Patients classified as indeterminate were older, were frequently hypertensive (59.2%), had diabetes mellitus (42.9%), and a higher LV mass index than those with normal diastolic function.

This study reported the mortality associated with higher grades of DD and progressive worsening of DD with preserved LV EF. How long should the period of follow-up be in this patient group? How about the long-term outcomes in indeterminate patients? It is necessary to evaluate the relationship between indeterminate diastolic function and mortality according to the new guidelines compared with the old guidelines.

Previous reports that compared the 2009 and 2016 guidelines, not only for cardiac patients, but also for the community-based general population and patients who underwent liver transplantation showed a low prevalence of DD according to the new guidelines.^{6,7)}

The updated classification might be focused on detecting the most advanced cases. We need more data from various patients groups about DD reclassification in addition to HFpEF.

Further, the prognostic impact of these criteria need to be further investigated in future prospective studies.

REFERENCES

1. Almeida JG, Fontes-Carvalho R, Sampaio F, et al. Impact of the 2016 ASE/EACVI recommendations on the prevalence of diastolic dysfunction in the general population. *Eur Heart J Cardiovasc Imaging* 2018;19:380-6.
[PUBMED](#) | [CROSSREF](#)
2. Ponikowski P, Voors AA, Anker SD, et al. 2016 ESC guidelines for the diagnosis and treatment of acute and chronic heart failure: the task force for the diagnosis and treatment of acute and chronic heart failure of the European Society of Cardiology (ESC) Developed with the special contribution of the Heart Failure Association (HFA) of the ESC. *Eur Heart J* 2016;37:2129-200.
[PUBMED](#) | [CROSSREF](#)
3. Wan SH, Vogel MW, Chen HH. Pre-clinical diastolic dysfunction. *J Am Coll Cardiol* 2014;63:407-16.
[PUBMED](#) | [CROSSREF](#)
4. S SK, Desai N, Gona OJ, K VK, B M. Impact of updated 2016 ASE/EACVI VIS-À-VIS 2009 ASE recommendation on the prevalence of diastolic dysfunction and LV filling pressures in patients with preserved ejection fraction. *J Cardiovasc Imaging* 2021;29:31-43.
[CROSSREF](#)
5. Sorrentino R, Esposito R, Santoro C, et al. Practical impact of new diastolic recommendations on noninvasive estimation of left ventricular diastolic function and filling pressures. *J Am Soc Echocardiogr* 2020;33:171-81.
[PUBMED](#) | [CROSSREF](#)
6. Huttin O, Fraser AG, Coiro S, et al. Impact of changes in consensus diagnostic recommendations on the echocardiographic prevalence of diastolic dysfunction. *J Am Coll Cardiol* 2017;69:3119-21.
[PUBMED](#) | [CROSSREF](#)
7. Park J, Lee J, Kwon A, et al. The 2016 ASE/EACVI recommendations may be able to more accurately identify patients at risk for diastolic dysfunction in living donor liver transplantation. *PLoS One* 2019;14:e0215603.
[PUBMED](#) | [CROSSREF](#)