

[LETTERS TO THE EDITOR]

How to Improve the Cardiac Function and Clinical Outcomes in Patients with Heart Failure with a Mid-range Ejection Fraction

Key words: hemodynamics, echocardiography, beta-blocker, ivabradine

(Intern Med 60: 2161, 2021)

(DOI: 10.2169/internalmedicine.6954-20)

To the Editor Tsukamoto et al. demonstrated that the worsening of the left ventricular ejection fraction (LVEF) one year after discharge was associated with a worse prognosis than an improved LVEF among hospitalized patients with heart failure with a mid-range ejection fraction (HFmrEF) (1). Several concerns should be addressed to improve their findings.

The LVEF can be improved by not only pharmacological therapy but also non-pharmacological therapy. For example, trans-catheter mitral valve repair and trans-catheter aortic valve replacement can improve the LVEF in patients with severe valve diseases and an impaired cardiac function. Adaptive servo-ventilation therapy can facilitate left ventricular reverse remodeling in heart failure patients with refractory congestion. Catheter ablation can improve the cardiac function in heart failure patients with atrial fibrillation. The prevalence of guideline-directed triple therapy remained unchanged during the one-year observational period among all three groups stratified by the changes in the LVEF, but some patients might have received the above interventions and enjoyed cardiac reverse remodeling.

Although it did not reach statistical significance, a lower heart rate has tended to be associated with a worsening LVEF. In the SHIFT trial (2), heart rate reduction therapy using ivabradine improved the survival and facilitated cardiac reverse remodeling in patients with a reduced LVEF. Such a paradoxical finding might require further discussion.

At present, various novel medications, including sacubitril/valsartan, SGLT2 inhibitor, and ivabradine, are available for treating heart failure patients in Japan. The prevalence of the transition of LVEF categories might change in the near future.

The author states that he has no Conflict of Interest (COI).

Financial Support

TI receives grant support from JSPS KAKENHI: JP20K17143.

Teruhiko Imamura

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