Brief Report

Lower-Extremity Function as a Marker of Frailty and Outcomes of Heart Failure With Preserved Ejection Fraction in Older Adults

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Heart failure with preserved ejection fraction (HFpEF) remains predominantly a disease of aging and older adults.[1] Disease management programs have centered on management of heart failure without addressing coexisting geriatric conditions and have not successfully reduced hospitalizations in older adults with HFpEF.[2] Clinical management is uniquely challenged by complexities that result from the high burden of geriatric conditions, such as multimorbidity and frailty.[3] In fact, the rate of hospitalizations for reasons other than heart failure in this population is at least as high as or higher than that of heart failure hospitalizations.[4] Focused efforts to conquer a disease of the heart may lose sight of the person as a whole and ultimately fail to deliver meaningful clinical outcomes.[5]

Accumulating evidence suggests that frailty assessment can provide evaluation of physiologic reserve and function, thereby informing prognostication and individualized care in older adults with heart failure.[6] Several validated bedside assessments of frailty (eg, frailty phenotype, deficit accumulation index, Clinical Frailty Scale) have been shown to predict adverse outcomes in heart failure.[6] In this issue of the *Journal*, Hornsby et al report clinical outcomes associated with frailty, measured with the use of the Short Physical Performance Battery (SPPB), in 114 patients with HFpEF who were evaluated in a university outpatient specialty clinic.[7] The SPPB gives a score of 0−12 based on 3 simple tests of lower extremity function: walking speed, standing balance, and chair rise. The mean SPPB score was 6.9 points; 34% had severe frailty (SPPB ≤6 points), and 46% had mild frailty (SPPB 7−9 points). Lower SPPB scores were positively correlated with older age, higher burden of chronic conditions, and more severe heart failure symptoms. After adjusting for these variables, a 1-point increase in the SPPB score was associated with 21% lower odds of death or all-cause hospitalizations at 6 months. Notably, the authors found that the predictive power of the SPPB score was similar for cardiovascular and noncardiovascular hospitalizations. In a sensitivity analysis excluding patients whose low SPPB scores might reflect the acute effect of hospitalization in the previous month rather than frailty itself, SPPB scores remained prognostic of mortality and hospitalizations.

Since its development in 1994,[8] the SPPB has been shown to be a reliable objective measure of frailty and predictor of mortality, disability, and other poor clinical outcomes in community-dwelling and hospitalized older adults.[9,10] Its use is safe, feasible (administration time ∼5 minutes), and inexpensive, and it requires only a stopwatch, a chair, and space to perform a timed walk test (training resources are available at https://sppbguide.com). As demonstrated by Hornsby et al.,[7] SPPB could be performed in the majority of patients in the clinic (116 of 122 patients). It can measure the vulnerability to poor clinical outcomes that is not well captured by a cardiac-specific severity score or comorbidity burden.[7] Considering the high burden of hospitalizations due to noncardiovascular reasons in older adults with HFpEF,[4] the usefulness of the SPPB in predicting both cardiovascular and noncardiovascular hospitalizations is attractive in selecting candidates for resource-intensive multidisciplinary interventions and case management. Moreover, the SPPB is sensitive to change in response to an intervention (eg, exercise or nutritional supplementation), which makes it a suitable surrogate marker to evaluate the benefit of the intervention.

Demonstration of how frailty assessments can be incorporated into clinical practice and inform clinical care is paramount to moving toward a more comprehensive model of cardiac care. The study by Hornsby et al. strengthens the growing body of evidence supporting unique interactions between frailty and cardiovascular disease. Although

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Manuscript received November 8, 2018; revised manuscript accepted November 8, 2018.

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1071-9164/$ - see front matter

https://doi.org/10.1016/j.cardfail.2018.11.002

cardinal features of frailty may often overlap with symptoms of HFpEF, the independent prognostic value of SPPB suggests that poor outcomes in this population are not driven solely by heart failure severity. To tackle HFpEF as an isolated disease is inevitably an exercise in disappointing results; the heart of the forest is still only a tree. Patients with HFpEF still bear the burden of multimorbidity, frailty, and aging. Therefore, it is imperative to integrate frailty and core geriatric domains as part of routine clinical evaluations to guide successful cardiovascular care of older adults with HFpEF.

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