during the past several years, prognostic instruments have been developed for patients with heart failure (HF), predicting a number of clinical outcomes, including mortality and rehospitalization.1-3 Few similar instruments for short-term prognosis have appeared designed specifically for use in the elderly with HF. Pilotto et al4 have addressed this gap by creating a prognostic instrument that places new emphasis on a whole array of geriatric tools. The Multidimensional Prognostic Index (MPI) is derived from a comprehensive geriatric assessment (CGA). This new tool demonstrates powerful predictive capabilities for 30-day mortality in elderly patients, especially for men, hospitalized for HF, in comparison with more traditional prognostic tools such as the New York Heart Association class, or indices derived from ADHERE2 or the EFFECT measure.5

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The high correlation for this sample between the MPI scores and those derived from previously developed risk scores for this sample is impressive. This close relationship between predominately geriatrics-based items (derived from CGA) and essentially clinical items (NYHA, ADHERE, and EFFECT scores) demonstrates striking commonality where few would have suspected it.
The authors divided the patients into tertiles based on MPI score (lower third, middle third, and upper third) and noted distinct, graded, increased mortality risk with increasing tertile. Consideration of the MPI score as a continuous variable would have been helpful as well, though not as utilitarian as the convenience of prespecified cut points. ROC plots for MPI scores compared with other prognostic indices (NYHA, ADHERE, and EFFECT) provide one revealing observation about the robustness of the predictive power of the MPI as a continuous variable for short-term use, especially in men. A larger sample size might have produced a larger number of end points for women and might have also been confirmatory.

To no one’s surprise, the short-term mortality is independent of left ventricular ejection fraction. The results demonstrating higher short-term mortality in men than in women is consistent with the overall mortality trends in this age group. Higher scores on MPI carried a greater short-term mortality risk were more likely to be associated with increasing age and less likely to be found in patients with heart failure and preserved ejection fraction.

Some of the observations seem to vary from those described in the literature. In particular, the picture of heart failure with preserved ejection fraction in this study does not seem to resemble other previously described groups. The clinical features of heart failure and preserved ejection fraction in these previous studies characterize a syndrome more likely found in older women with a history of hypertension. To emphasize, however, this study examines a highly selected population (elderly, acutely hospitalized on geriatrics unit) not readily comparable with the community sample described from Framingham, Mass,7 or from the patients of Olmsted County, Minn.8

What is the practical utility of this new instrument? Of all the drawbacks to the MPI derived from this CGA, the number of instruments, time required to administer the CGA and reliance on “expert” geriatricians markedly restricts its utility. Widespread adoption will need to await simplification, abbreviation, and revalidation. Once these tasks have been accomplished, it seems that the group of patients identified at the greatest risk of 30-day mortality based on MPI tertile could then be directed to the most appropriate management. More intensive intervention or hospice care might be selected depending on the individual situation. A method for weighting of the attributable risk according to MPI component would be very helpful in setting the direction of the clinical plans toward comfort care and compassionate end-of-life plans or more aggressive care to address or remediate possibly reversible comorbid or primary cardiac problems. I hope that the authors’ future plans lead them beyond enumeration toward a more weighted approach to their formula.

The fact that the CGA has greater short-term prognostic value than do disease-specific or organ system-oriented instruments appears unexpected to some. However, on closer examination, the MPI speaks volumes for the powerful impact of frailty, the loss of activities of daily living capabilities, diminishing cognitive skills and the process of global involutional catastrophe. The end of the road is a final common pathway when the extremely frail elderly meet acute decompensation of chronic systemic illness. With respect to the present investigation by Pilotto et al, heart failure is the disease of the day.

Can these new instruments be directly applied to community-dwelling outpatients? Likely not. What we have learned, however, is that in elderly patients hospitalized with HF, we have renewed reasons to look beyond the heart. For advancing a personalized care approach to the elderly, that is a good thing.

Disclosures

None.

References

Prognosis of Heart Failure in the Elderly: Not an Affair of the Heart?
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