Response: Frailty assessment in the COVID-19 pandemic

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Dear Editor,

We would like to thank Ng Cheong Chung and colleagues for their important comment on our recent manuscript demonstrating the ability of the Clinical Frailty Scale (CFS) to predict the need for mechanical ventilation and duration of hospital stays in German patients with COVID-19.1 The authors raise important points and we take the opportunity to respond herein.2

Frailty is a complex condition that is characterized by the loss of functional reserve as well as a decline in cognitive function. The development of frailty in a patient is multifaceted—including body constitution and even sociocultural factors. Therefore, the comment on measures of frailty like the CFS and their relevance in different ethnic groups is well made.

Recent evidence supports that the presence of comorbidities is strongly associated with a worse prognosis in patients suffering from COVID-19.3,4 That is why we chose to include the Charlson Comorbidity Index (CCI) as a measure of comorbidity burden in our multivariable models to demonstrate the independent impact of higher CFS levels on the outcome of our patients.1 Higher CCI scores have proven value in predicting higher mortality in patients with COVID-19 as discussed in the Letter to the Editor.1 We agree and expect that an adjustment according to the underlying comorbidity or a weighing of one comorbidity over another would likely further strengthen the current analysis. However, the small sample size limits the applicability of this approach. The same holds true for the inclusion of different laboratory values into the models since the inclusion of additional parameters could have resulted in overfitting.

The recently published COPE (COVID-19 in older people) study of 1564 patients with COVID-19 by Hewitt et al5 strongly highlights the predictive value of the CFS. Particularly, this study considered multivariable models for various parameters, including C reactive protein, diabetes mellitus, arterial hypertension or impaired renal function, which confirmed CFS as an independent predictor of mortality and longer time until hospital discharge.

Taken together, the current evidence underlines that the CFS is predictive of outcomes in patients with COVID-19 outperforming age or comorbidities by themselves. Finally, CFS is readily available to guide prompt clinical decision making at the time of patient admission under resource-limitied circumstances.

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