Frailty and mortality in patients with COVID-19

The COVID-19 in Older People (COPE) study by Jonathan Hewitt and colleagues[1] supports the use of the Clinical Frailty Scale (CFS) for prognostication. These findings support our recently published single-center experience.[2] However, several aspects of this study deserve clarification.

COPE included patients aged between 20 and 101 years old. Frailty is a geriatric concept, although it might originate in midlife, and UK guidelines specify that the CFS should not be applied to younger people.[3] Frailty predicted mortality in our exclusively geriatric cohort (≥65 years).[2] Judging from the COPE data, frailty does not appear to be associated with mortality in patients younger than 65 years.

The methods do not specify whether biomarkers were measured on admission or during their hospital stay.[1] In our study, C-reactive protein concentrations at admission were not associated with mortality, with median values less than 40 mg/L in both patients who survived and those who did not.[2] Could the authors report the median C-reactive protein concentrations in their groups?

Many studies on COVID-19 use Cox proportional hazard models, which consider both mortality and its timing (early or late). I wonder whether such models are appropriate for an acute life-threating illness. In that regard, I question the validity of mortality on day 7 of treatment in hospital as an appropriate outcome.

Finally, the authors of the COPE study suggest that the CFS could be used for shared decision making. However, CFS by itself has insufficient sensitivity and specificity to be useful in clinical practice.[2] Indeed, luckily, most frail older adults that have been treated in hospital survive COVID-19. Given that the adjusted hazard ratios in the COPE study are similarly low as in our report, I believe that the predictive use would be similarly restricted.

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1 Hewitt J, Carter B, Vilches-Moraga A, et al. The effect of frailty on survival in patients with COVID-19 (COPE): a multicentre, European, observational cohort study. *Lancet Public Health* 2020; **5:** e444–51.

2 De Smet R, Mellaerts B, Vandewinckele H, et al. Frailty and mortality in hospitalized older adults with COVID-19: retrospective observational study. *J Am Med Dir Assoc* 2020; **21:** 928–32.e1.

3 National Institute for Health and Care Excellence. COVID-19 rapid guideline: critical care in adults. NICE guideline [NG159]. March 20, 2020. https://www.nice.org.uk/guidance/ng159 (accessed April 24, 2020)