

Systolic dysfunction and mortality in critically ill patients: more data are needed to believe in this association!

We read with interest the large study conducted by Cavefors *et al.*¹ assessing the impact of left ventricular systolic dysfunction (LVSD) on mortality in critically ill patients. The authors defined LVSD as an ejection fraction (EF) < 50% and/or the presence of regional wall motion abnormalities (RWMA) and found a prevalence of 24% ($n = 100$) with roughly half of them ($n = 52$) experiencing an LVSD not attributable to a cardiac disease.

Among others, this study highlights how challenging is to make diagnosis of cardiomyopathy in the context of critical illness, that is, in the context of sepsis or other conditions with very variable loading conditions.² However, the author's conclusions that LVSD is linked to an increased risk of death and that its prognostic importance in critical illness might be underestimated may be hazardous for several reasons.

First of all, several meta-analyses have consistently shown that LVSD (as evaluated by means of EF^{3,4} or tissue Doppler imaging *s'* wave⁵) is not associated with mortality in critically ill patients. Whether the inclusion of this and other new studies would affect this result remains unknown.

Second, the echocardiography was performed by a cardiologist but the study lacks of an assessment on left ventricular diastolic dysfunction (LVDD), and this is certainly a confounding aspect. Indeed, although the assessment of LVDD is controversial in critically ill patients,⁶ the presence of LVDD has been strongly and repeatedly associated with mortality^{4,7} (and also with weaning failure⁸) in critically ill patients. Therefore, we warrant caution when discussing the importance of LVSD if authors have not assessed LVDD too.

Finally, we think that this prospective study would strongly benefit from full adherence to the recently published recommendations for reporting critical care echocardiography research studies ('Preferred Reporting Items for Critical-care

Echocardiography Studies—PRICES').^{9,10} Indeed, these recommendations represent nowadays the standard for reporting essential items for the interpretation of the study itself. The PRICES recommendation are freely accessible and provide a checklist that can be easily used by the authors to strengthen the reporting of their study. Full adherence with PRICES recommendations may increase external validation of the study findings allowing also between-study comparison with previous and future research.

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