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Limited echocardiography in the management of critically ill patients in shock

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Conflict of Interest:

None of the authors reports any conflict of interest. All the three authors are fully accredited in echocardiography with the European Society of Cardiology.

<http://www.escardio.org/communities/EACVI/accreditation/echocardiography/TEE/Pages/fully-certified-individuals.aspx>

Dear Editor,

Kanji et al.[1] introduced an early “limited echocardiography” (LE) assessment to guide the management of critically ill patients with undifferentiated shock, and compared this population with historical controls.

This interesting article contains several flaws and deserves commenting. From a broad perspective, we believe the echocardiographic approach adopted by fully accredited operators was not “limited”, since it included advanced assessment according to UK practice[2] and to the recently published International Consensus Statements[3, 4]. Yet, the authors assessed valvular function, a requisite of advanced but not of basic echocardiography.

Other single interesting points deserve also to be commented. First, the authors failed to indicate the proportion of patients who did not have adequate echocardiographic windows and did not include them in the analysis, which further hampers the methodology of the study, already weakened by the comparison with historical cohort. We believe it may be difficult to get adequate windows in all patients, especially if ventilated.

Second, according to the International Consensus[4], echocardiography should be used as hemodynamic monitoring tool performing sequential examinations to assess efficacy/tolerance of therapeutic changes. For instance, the authors report 14% incidence of significant valvular disease but there is no mention about referral to cardiologists and/or cardiac surgeons. On the same grounds, there was a 25% incidence of moderate-to-severe left ventricular failure. Only 6 patients had follow-up studies, in all cases after more than one week. In our opinion these conditions warrant much earlier follow-up and possibly a formal echocardiography study in the patient’s best interest. It is therefore difficult for us to believe that a single echocardiography study without a sequential assessment is responsible for the observed lower mortality in the LE group. In this context it is also unclear which (if any) hemodynamic monitoring strategy was adopted in the historical controls.

Third, the incidence of right ventricular dysfunction is unclear since it is quoted as 30% in table 2 and reported as 9% in the text. One of the main findings of the study is a significantly lower intravenous fluid administration on day 1 to the LE population, and in this context it would be intriguing to know if patients with impaired right ventricular function were treated differently from the rest of the LE population.

Last, the IVC collapsibility cut-off was considered at 15% level, but this should consider the level of positive end-expiratory pressure in ventilated patients[5], which is not reported by the authors.

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