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To the Editor: “Lung ultrasound to predict gas-exchange response to prone positioning in COVID-19 patients: A prospective study in pilot and confirmation cohorts”

To the editor,

We ardently read the article by Heldeweg et al. entitled “Lung ultrasound to predict gas-exchange response to prone positioning in COVID-19 patients: A prospective study in pilot and confirmation cohorts” [1]. We feel privileged to have the opportunity to go through this astutely crafted manuscript, and we congratulate the authors for their diligent efforts. We accord with the main findings presented by the authors that anterior lung ultrasound score index (LUSI), in addition to other clinical parameters, may be used to aid COVID-19 respiratory strategy and a clinician’s decision to prone. However, we believe that it is imperative to incorporate supplementary points that can fortify the importance of this article and contribute to the current understanding of the topic.

Firstly, conducting a study at a specific locale reduces external validity of findings and may engender bias owing to potential disparities in socio-economic, health, and environmental conditions. As an example, a 2021 study designed to find association between lung ultrasound and COVID-19 included participants from different data centers and thus reported more generalized data [2].

Secondly, we are left to ponder why the authors opted for the utilization of the lung ultrasound score (LUS) as opposed to a parallel, more robust and validated scoring system such as the integrated lung ultrasound score (i-LUS). The latter takes into consideration important parameters for clinical decision-making such as inferior vena cava (IVC) diameter and index of collapse, diaphragmatic excursions and search for pleural and pericardial effusions. A 2022 study that assessed the value and implications of i-LUS for COVID-19 patients found it be clinically potentially superior to LUS [3]. Moreover, we wonder why authors exclusively reported sequential organ failure assessment (SOFA) scores, instead of the more recently-developed COVID-SOFA scores, which have been found to be a better criterion for mortality prediction in COVID-19 patients [4].

Thirdly, authors did not explore the presence of other comorbidities, such as diabetes and hypertension in patient population. These comorbidities may have influenced lung status and response to prone positioning, and should have been considered as potential confounding factors in this investigation. Additionally, it is noteworthy that proning diabetic COVID-19 patients is associated with complications such as brachial plexopathy [5] which may have influenced physicians’ decision to adopt prone positioning in such scenarios. Hence, the authors should have delineated the prevalence of diabetes, hypertension, and other comorbidities among the patient population in the study.

To conclude, we appreciate the authors for their intriguing efforts in conducting this study. We feel that in future well-powered multicenter trails with longer follow-up period are required to ascertain importance and indications for the use of lung ultrasound to predict the gas-exchange response to prone positioning in COVID-19 patients.

Declaration of Competing Interest

None.

Acknowledgment

None.

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