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Prolonged prone positioning in ARDS: No mortality benefit, no increased risk—But what about the reduced ICU staff workload?

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Dear Editor,

We read with great interest the recent systematic review and meta-analysis by Jung et al. [1] on the impact of prolonged prone positioning (PP) in patients with severe acute respiratory distress syndrome (ARDS). The authors included a total of 9 records (3 randomized controlled trials and 6 non-randomized studies) and found no difference in short-term or long-term (90-day) mortality between standard and prolonged prone positioning. The impact on oxygenation was similar between standard and prolonged PP. On the other hand, prolonged PP was not associated with an increased risk of adverse events, including pressure injuries and catheters/endothelial tube dislodgment. The authors conclude that “current evidence does not support the use of prolonged PP outside of clinical trials” [1].

While we appreciate the rigorous analysis performed, we wish to share a clinical and operational perspective based on our experience.

In 2020, we were among the first to implement and report the use of prolonged PP in patients with SARS-CoV-2 pneumoniae [2]. During the first wave of the COVID-19 pandemic, the majority of patients admitted to our 18-bed Intensive Care Unit (ICU) had indications to PP. This translated into an enormous workload

for the medical and nurse staff, who typically spent several hours per day performing the prone/supine positioning maneuvers. Such an intensive effort occurred in a critical context characterized by personnel shortages and the necessity to recruit staff without a critical care background. Consequently, we were prompted to adopt a protocol for prolonged PP, with an average duration of 36 h per cycle [2]. In a preliminary report on 10 patients, we showed that prolonged PP was associated with a more sustained oxygenation improvement over time, without any increase in the risks of pressure injuries or other complications [2].

Even though the cumulative time spent in prone position remains the same [1], prolonged PP may reduce the total number of prone positioning cycles needed. This can have two advantages. First, the significant reduction in the ICU staff workload. Second, adverse effects including catheter or endothelial tube dislodgment are associated with the prone-to-supine maneuvers rather than the prone positioning per se. Therefore, reducing the overall number of cycles could decrease the risk of these complications.

In conclusion, we wish to emphasize the significant reduction in ICU staff workload associated with prolonged PP, which is an aspect that rarely features in mortality-focused meta-analyses. We believe that, even if the meta-analysis by Jung et al. [1] found no mortality benefit, the absence of increased adverse events, coupled with the reduction in stress and workload for ICU personnel, provides a sufficient argument for considering prolonged PP as a therapeutic strategy for severe ARDS. A more sustained improvement in oxygenation over time (beyond the absolute increase in PaO₂/FiO₂ ratio) could

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be an additional advantage that remains to be explored in clinical trials.

Abbreviations

PP Prone positioning
ARDS Acute respiratory distress syndrome
ICU Intensive Care Unit

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