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Increasing the effective airway diameter on weaning of tracheostomized patients: choosing the right outcome

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Dear Editor,
We read with great interest the study by Hernandez et al. [1] published previously in this journal. There has been increased use of tracheostomy in critically ill patients over the last decade. Besides controversies about the selection of patients who should undergo the procedure, the timings of placement and decannulation are important unsolved issues [2]. In this context, there are an increasing number of patients in the same study conditions that require prolonged mechanical ventilation (MV)—defined as the need for more than 21 days of MV. Despite the very impressive results concerning the increase of effective airway diameter in tracheostomized patients as an independent predictive factor for successful weaning, some important considerations must be considered. In our opinion, the trial main outcome “weaning time after tracheostomy”, defined as the time from the first disconnection from MV after

tracheostomy to tolerance to 24 consecutive hours without MV, is of questionable relevance in the clinical context of this patient population, keeping in view their difficult and prolonged weaning, requiring frequent returns to MV even after free periods as long as 24 h. This outcome is quite different from that used in a recent study addressing a similar population, where time taken to successfully weaning was 5 days without mechanical support [3], and in a consensus statement defining weaning success in prolonged MV as liberation from ventilator support for 48 h, 7 days, or 14 days in tracheostomized patients in acute ICUs [4]. A more relevant clinical outcome among those analyzed in this study, however, should be the absolute number of days on MV and length of ICU stay, and there was no statistically significant difference between groups. Other different outcomes should be evaluated in patients submitted to tracheostomy owing to prolonged MV. Fikkers et al. [5] demonstrated a great incidence (about 50 %) of perioperative complications—mainly bleeding and cannula obstruction—as well as of late complications, especially speech difficulties and coughing; in the late follow-up, only about one-third of patients had no complaints at all. These potential adverse events should be considered when the indication for the procedure is under discussion. Another pertinent and unaddressed issue was the frequency of CPAP use between the groups, a matter with important consequences for the findings, as discussed by the authors.

Conflicts of interest There is no conflict of interest identified by the authors.

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