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**Reply to comment on:
“Safety of percutaneous
dilatational tracheostomy
in patients ventilated
with high positive
end-expiratory pressure”**

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Cakar et al. argue that percutaneous dilatational tracheostomy (PDT) is an elective intervention and therefore should be performed after stabilization of oxygenation after 48–72 h, as recently described [1]. We agree wholeheartedly since this reflects our clinical practice [2]. PDT was performed in nearly all patients after initial stabilization and after elapse of 5 days (median), as easily seen in Table 2. While in our ARDS and ECMO center we observe similar courses of improvement in our patients as others [1], there is, however, an important difference. Our patients

had a much more impaired oxygenation at the beginning of ARDS and even after initial stabilization (PEEP of 17 ± 4 vs. 8.7 ± 5.5 mbar and a $\text{PaO}_2/\text{FIO}_2$ ratio of 130 ± 42 vs. 141 ± 55 mmHg). Furthermore, as suggested by an overall mortality of 61%, obviously not all ARDS patients improve within 72 h [1]. Thus to optimize mechanical ventilation and handling of these severely compromised patients PDT is performed after the attempt of initial stabilization.

We also agree that blood gas measurements 1 h after PDT do not reflect the oxygenation during PDT, and that intra-arterial blood gas tension measurement would be likely to show this. Furthermore, we cannot contradict the speculation that oxygenation had to be impaired, and that PaCO_2 increased under PDT in patients with high PEEP. However, in our hands [2, 3] it took a median of 7 min to perform PDT, and no serious side effects in these severely ill patients were observed. Moreover, PDT is performed using a FIO_2 of 1.0, and no serious deterioration in arterial oxygen saturation was observed. However, Cakar et al. are mistaken in believing that our main concern was oxygenation during PDT. Rather, we were interested that sequelae of the procedure jeopardized gas exchange. Therefore we measured blood gas tensions 1 h and 24 h after the procedure. As we demonstrated, particularly in the most severely ill patients (see Fig. 2), PDT did not cause a deterioration in gas exchange but was associated with further improvement.

Overall, 55 of 88 patients (59%) treated with high PEEP survived in contrast to 53 of 115 patients (46%) with low PEEP, which is an excellent result for patients with grave ARDS. Therefore while we do not argue that PDT can be dangerous in the hands of unexperienced physicians, it is time to rethink: PDT can be safe even in patients with severe ARDS ventilated with high PEEP.

References

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