


CORRESPONDENCE



High flow nasal cannula compared with conventional oxygen therapy for acute hypoxemic respiratory failure

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Dear Editor,

We read the recent article written by Rochweg et al. in *Intensive Care Medicine* and greatly appreciate their efforts to assess the effect of high flow nasal cannula (HFNC) for acute hypoxemic respiratory failure in a systematic review and meta-analysis [1]. Nevertheless, some issues should be further discussed.

First, it is obvious that $I^2=0$ in Fig. 3, why not apply the fixed effect model in meta-analysis and trial sequential analysis (TSA) [2, 3]? Second, they only performed TSA on invasive mechanical ventilation outcome and mortality outcome. But another major positive outcome of escalation of therapy was not evaluated by TSA. Third, The relative risk reduction = $\frac{\text{Incidence in control arm} - \text{incidence in intervention arm}}{\text{Incidence in control arm}}$ [4]. Therefore, the relative risk reduction of invasive mechanical ventilation outcome should be 16.58% $\left(\frac{\frac{235}{805} - \frac{205}{842}}{\frac{235}{805}}\right)$, not 15%. While, the relative risk reduction of

mortality outcome should be 4.60% $\left(\frac{\frac{186}{685} - \frac{187}{722}}{\frac{186}{685}}\right)$, not 15%,

too. Therefore, they cannot apply the same relative risk reduction (15%) to TSA of different outcomes. In addition, boundary required information size (RIS) on mortality outcome is ignored by Trial Sequential Analysis v.0.9.5.10 Beta

due to little information used (0.92%). Therefore, TSA of mortality outcome cannot be drawn on principle.

Electronic supplementary material

The online version of this article (<https://doi.org/10.1007/s00134-019-05652-8>) contains supplementary material, which is available to authorized users.

Abbreviations

HFNC: High flow nasal cannula; TSA: Trial sequential analysis; RIS: Required information size.

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Compliance with ethical standards

Conflicts of interest

The authors declare that they have no competing interest.

Ethical approval

Not applicable.

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