Reviewer's report

Title: Respiratory acidosis during bronchoscopy-guided percutaneous dilatational tracheostomy: impact of ventilator settings and endotracheal tube size

Version: 0 Date: 03 Jun 2019

Reviewer: Kamal Maheshwari

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Thanks for the opportunity to review the manuscript titled “Respiratory acidosis during bronchoscopy-guided percutaneous dilatational tracheostomy: impact of ventilator settings and endotracheal tube size” by Karagiannidis et al. This study suggest you not only need higher TV but larger >8.0 size ET tube to prevent hypercapnia in PDT procedure. This finding makes sense. Overall study design, methods and results are well reported. Major issue: 1. It is not clear if the increase in pCO2 is clinically significant. Authors mention in the introduction that "In particular, the impact of dynamic alterations with rapidly changing PCO2 and pH values on organ function in ICU patients with already existing organ dysfunction has yet not been fully elucidated." Authors, first, needs to convince readers that short term changes in PCO2 are clinically important. Otherwise, it is logical that if you use higher TV you will have lower PCO2. Also, the problems of using higher TV like barotrauma, airway injury, fire risk needs to be discussed. 2. The comparison between PtcCO2 and Paco2 show reasonable correlation but not so at higher values. Please comment. The question, do we need to monitor PtcCO2 during this procedure is not answered? Minor issues: 1. I don't think the changes in PH or pCO2 are profound. Please change. 2. PtcCO2 is superior over the end tidal CO2, needs further explanation. Which patients, what condition? Is this true in all patients?

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