Reviewer’s report

Title: Doxapram alleviates low SpO2 induced by the combination of propofol and fentanyl during painless gastrointestinal endoscopy

Version: 0 Date: 03 May 2019

Reviewer: Ya-Jung Cheng

Reviewer's report:

Doxapram prevents respiratory depression induced by the combination of propofol and fentanyl during painless gastrointestinal endoscopy

Major concerns

1. Please clarify the definition of respiratory depression. The respiratory depression was defined by SpO2 < 90% at first. Then the authors described the following management: facemask after 10 seconds' desaturation (SPO2< 90%), jaw lifting after 10 seconds facemask with desaturation, assisted ventilation after 10 seconds jaw lifting with desaturation (SPO2< 90%)

2. As shown as above, in table 2, the incidence of desaturation was significantly lower in D group, but lasted less than 30 seconds. The need of assisted ventilation was low (2-4/55 patients) and comparable between two groups.

3. As shown in figure 1, the SPO2 was significantly higher within the first 3 minutes. Heart rate was significantly higher at the first minute.

4. What is the clinical impact for injection doxapram with induction agents? It is possible for patients to have respiratory depression and all the anesthesiologists will closely observe the respiration in the first few minutes after induction. Besides the first 3 minutes after induction, there were not any benefits for adding doxapram with induction agents by propofol and fentanyl. Therefore, it is rational to change the conclusion into "Adding doxapram on propofol and fentanyl combination presented less desaturation on the first 3 minutes after induction during painless gastrointestinal endoscopy"

Minor concerns

1. Page 4, line 65, please state your hypothesis.

2. Page 7, line 121, please define "respiratory depression" in a clear way. Is there tongue drop? Or hypoventilation? By their methods, airway obstruction seems to be the major reason for desaturation.

3. Page 11, line 217, the depth of anesthesia?
4. Figure 1, it is not necessary to use different symbols for statistical significance. P<0.05 is enough.

5. Did your patients receive any anticholinergic such as hyoscinebutyl before gastroendoscopy? It will affect heart rate.

**Are the methods appropriate and well described?**
If not, please specify what is required in your comments to the authors.

Yes

**Does the work include the necessary controls?**
If not, please specify which controls are required in your comments to the authors.

Yes

**Are the conclusions drawn adequately supported by the data shown?**
If not, please explain in your comments to the authors.

No

**Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?**
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

**Quality of written English**
Please indicate the quality of language in the manuscript:

Needs some language corrections before being published

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