Author's response to reviews

Title: Impact of perioperative RSV or influenza infection on length of stay and risk of unplanned ICU admission in children: a case-control study

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Author's response to reviews: see over
To the Editor of BMC Anesthesiology:

Thank you for the opportunity to revise our manuscript (MS: 1665525260551145) for further consideration of publication. We especially want to thank the Referees for their time and thoughtful comments. We have addressed each of the Referees comments below and have made changes as appropriate to the manuscript. As the result of additional analyses requested by the Referees, we have changed the title of our manuscript to better reflect our findings. Our new title is “Impact of perioperative RSV or influenza infection on length of stay and risk of unplanned ICU admission in children: a case-control study”.

Referee #1 Comments:

1. The manuscript is of very small sample size
   Author response: We realize that this study has a small sample size and state so in the Limitations section of the Discussion.

2. RSV and influenza should not be mixed for analysis because RSV affects younger children
   Author response: We have analyzed RSV and influenza separately as recommended by the referee.

3. There is no parainfluenza group. Indeed influenza and parainfluenza may be lumped together to increase the sample size but RSV should be analyzed separately.
   Author response: The parainfluenza viruses were not routinely tested for at our institution during the period of study. As such, we do not have parainfluenza data to present. The parainfluenza viruses, along with human metapneumovirus, enteroviruses, adenovirus and rhinoviruses can all cause significant viral respiratory illness in children. Since polymerase chain reaction testing has become increasingly available (at our institution since late 2009), it will be important to investigate the impact of these viruses on perioperative outcomes. We have included a discussion of this point in the Discussion.

4. The type of surgery is heterogenous and the numbers small (Table 1), rendering the information and table uncontributory.
Author: We have removed Table 1 as recommended by the Referee.

5. Table 2 should be divided into RSV vs. influenza+parainfluenza vs. controls.
   Author: We have divided Table 2 into RSV and Influenza vs. controls.

6. The longer PICU stay may not be clinically relevant, albeit statistically significant.
   Author response: We did not report any results regarding PICU LOS as not all of our patients were admitted to the PICU following surgery. We did, however, present results on postoperative LOS and hospital LOS. Postoperative LOS refers to the total number of hospital days following the surgical procedure. As the presentation of hospital LOS does not add anything to the analysis that isn’t already explained by postoperative LOS, we have removed hospital LOS from the analysis.

7. Why did they stay in PICU for longer without ventilatory or cardiopulmonary compromise?
   Author response: See above. We did not present results on PICU LOS as not all patients were admitted to the PICU.

Referee #2 Comments

1. What number of PICU admissions in each group (“cases” and “controls”) were actually planned PICU admissions prior to surgery? As this will impact on PICU admission rate and lead to misinterpretation that most of the PICU admissions were caused by disease severity, when they could just be pre-arranged.
   Author response: This is a good point. We have differentiated between planned and unplanned PICU admissions as determined preoperatively. We reframed the analysis to investigate whether or not there is an increased risk of unplanned PICU admission postoperatively between cases and controls.

2. Page 4: 2003 literature does not qualify as “recent research” for me.
   Author response: We have removed the word “recent” to be more accurate in our description of the published literature.

3. Table 2: “Risk factor” – specify/define
   Author response: We have added a paragraph to the Methods that outlines our evidence-based definition of chronic medical conditions associated with an increased risk of complications from viral illness. To be consistent, we have changed “Risk factor” to “Chronic medical conditions” in Table 1.

4. Table 3: “Peri/Postop events” – specify/define
Author response: We defined perioperative and postoperative events in paragraph #2 of the Methods.

   Author response: We defined perioperative events in paragraph #2 of the Methods.

The authors certify that this paper is our original unpublished work and it has not been submitted to any other journals for review. The authors have no conflicts of interest to disclose. The authors are liable for its content and having contributed to the conception, design and execution of the work, analysis and data interpretation, and for having participated in writing and reviewing the text, as well as approving the final version to be submitted. Likewise, we accept the introduction of changes to the content, if necessary subsequent to review, and of changes to the style of the manuscript by the journal's editorial staff.

Sincerely,

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