

## **Reviewer's report**

**Title:** Burden of severe RSV disease among immunocompromised children and adults: a 10 year retrospective study.

**Version: 0 Date:** 03 Sep 2017

**Reviewer:** Shannon Putnam

### **Reviewer's report:**

This manuscript presents interesting scientific information regarding RSV burden of disease among immunocompromised patients (adults and children) from a retrospective case review covering a 10 year period. The findings of this study reports that RSV infections among the study population significantly contribute to the morbidity and mortality among both immunocompromised adults and children above and beyond those noted in typical pediatric cases.

### Major Revision Points:

1. The manuscript needs to be re-written and expanded for clarification, especially the Methods section.
  - a. What was the primary selection criteria for study participation? Immunocompromised patients who were RSV positive or RSV positive patients that had an underlying immunocompromised condition?
  - b. What was the initial study size regarding just immunocompromised patients? What was the initial study size regarding RSV positive patients? Think Venn Diagram. How many study eligible patients were RSV negative? and why? lack of laboratory viral testing results? Need to add information regarding this group. Possibly add a study inclusion flow chart.
  - c. Virology section is well described - assuming that RSV testing was performed on all immunocompromised patients presenting or developing respiratory symptoms - please describe.
  - d. Statistical analyses section needs significant expansion in describing statistical methods used in this study - especially all regression analyses. This includes the multi-regression method

used, the level of significance for multiple regression, define (in clear terms) the dependent and independent variables used in the multi-regression analyses (include the univariate results showing which independent variables to include), include sample size numbers for the initiation of multi-regression and the final sample size included in the final model.

- e. It is unclear why patients with missing data were excluded from statistical analysis when regression methods automatically exclude data records with missing data points. This will affect the level of significance used to properly identify significant covariates.

2. the Results section should be modified to reflect the additional information garnered from modifying the Methods section.

3. The Discussion section is well written, but should be expanded to discuss the overall burden of RSV among health-seeking populations. A ten year retrospective study in which only 239 subjects were study eligible - this suggests that among a general population, RSV has only a slight burden and only among a small sub-set of immunocompromised patient categories.

4. The conclusion write-up seems to suggest RSV infection lends itself to significant morbidity and mortality among immunocompromised patients, both adult and pediatric. However, the numbers and analyses reported in this study appear to support that premise in a very small sub-set of patients.

Thank you for conducting this study and submitting the manuscript - it is of scientific interest. Please consider my review and comments.

**Are the methods appropriate and well described?**

If not, please specify what is required in your comments to the authors.

No

**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.

Yes

**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:

Acceptable

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