

## **Reviewer's report**

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

**Version: 0 Date:** 24 Aug 2017

**Reviewer:** Bernhard Resch

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

Of 239 RSV-positive immunocompromised patients [175 adults and 64 children] 111 patients (47.8%) presented with LRTI, which resulted in a 38 % (89/239) admission rate to hospital. While immunocompromised children were more likely to be admitted to hospital compared to adults (75% vs 62.9%,  $p=0.090$ ), inpatients admitted to the intensive care unit (17/19) or those who died (11/11) were mainly adults. From multivariable analyses, adults with solid tumors (OR 5.2; 95% CI: 1.4-20.9  $P=0.015$ ) or those requiring chronic immunosuppressive treatments mainly for rheumatologic conditions (OR 4.1; 95% CI: 1.1-16.0;  $P=0.034$ ) were significantly more likely to be admitted to hospital compared to hematopoietic stem cell (HSCT) recipients. Bacterial co-infection was significantly and consistently associated with viral LRTI and pneumonia. In conclusion, RSV-related disease resulted in a significant burden among adults requiring chronic immunosuppressive treatments for rheumatological conditions and those with solid tumors.

### Major concerns

None. Well done and interesting study with stringent methods and conclusions that are strongly based on study findings. To not only focus on adults within the introduction and discussion section, I suggest to incorporate the following papers: Paediatric Respiratory Reviews 10 (2009) 148-153; N Engl J Med. 1986 Jul 10;315(2):77-81; Influenza Other Respir Viruses 2016 May;10(3):205-10; J Immunol Res. 2014;2014:850831.

### Minor concerns

None

**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.

Unable to assess

**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

**Declaration of competing interests**

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