Reviewer's report

Title: Viral-bacterial co-infection in Australian Indigenous children with acute otitis media.

Version: 1 Date: 6 April 2011

Reviewer: Christopher Ashhurst-Smith

Reviewer's report:

Major Compulsory Revisions: NIL

Minor Essential Revisions:
1. p.2 Bold Results and Methods headings are the wrong way round.
2. p.2 in methods, line 4: change "at" for "in"
3. p.2 in methods, line 5: "normal diagnosis" needs to be re-worded (such as "children with no evidence of AOM").
4. p.3 Background para 2, line 2: consider adding "limited education".
5. p.4 para 2: change "less vaccines" to "fewer vaccines".
6. p.5 para 2: comma after "children".
7. p.5 para 2: add "to" before "seasonal"
8. p.6 top para, line 2: comma after "summary".
9. p.6 lower para: add ("QRT-PCR") after "reaction".
10. p.6 lower para: messy! HMPV not stated in full on previous pages.
11. p.6 remove dash, add brackets for HKU1 to NL63, also brackets for "WU and KI".
12. p.8 middle para: replace or delete "worst", and improve "6% of normal".
13. p.8 last para: replace "elevated" with "high". ("elevated" is linked to a normal range, which is difficult to define here).
14. last para, line 3: comma after "Unexpectedly"
15. p.8 last line: "Normal (N)" is not very clear. Readers might confuse "N" with n numbers.
16. p.9 line 2: Sentence starting "the total..." not clear. The total bacterial load was apparently high in both groups, and what is the definition of high?
17. p.9 para 2, lines 4/5: add "Table 2" and "Fig.3". Also, this sentence is not reader friendly. Suggest rewording.
18. p.9 Section 2: "zero load"; change to "...to be undetectable...".
19. p.10 middle para: comma after "Importantly".
20. p.11 in discussion end para 1: change "elevated" for "high".
21. p.11 para 2, sentence 2: Needs rewording or delete "still".
22. p.12 para 2: replace "may" for "might".
23. p.12 para 3, sentence 2: reword "and any virus" - not reader friendly when next to 2 viruses
24. p.12 same para: change "elevated" for "high".
25. p.13 top para, line 4: change "may" for "might".
26. p.13 para 2, line 2: Delete "the".
27. p.13 The last para should be the conclusions. The content of the conclusions submitted is word for word for the last paragraph of the discussion!
28. p.14 top para: delete "truly".

Discretionary Revisions.

1. The make up of the control group needs to be explained in more detail. The number in the control group is low (5%). Perhaps explanation that obtaining a large enough control group from the population under study is difficult due to the high incidence of AOM.
2. Suggest adding p values to the data given at end p.8/top p.9
3. p.9 Additional explanation of the bacterial load when viruses were present, with reference to the tables.
4. The tables are rather cluttered and might be difficult for readers not familiar with statistical data. Consider reducing or better layout.
5. In background, consider adding that some viral infections also induce new receptors for bacteria (Post et al., El Almer et al.).
6. Add to discussion: Differences in binding is associated with the strain of M. catarrhalis in experimental studies (El Ahmer, 2003).
7. Pathology is associated with host responses and not simply the number/load of bacteria present.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Needs some language corrections before being published
**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

I declare that I have no competing interests.