Reviewer's report

Title: Association between early bacterial carriage and otitis media in Aboriginal and non-Aboriginal children in a semi-arid area of Western Australia: a cohort study

Version: 1 Date: 18 September 2012

Reviewer: Elske J.M. van Gils

Reviewer's report:

Introduction

1. The authors write about the resultant hearing loss after otitis media, which may suggest that otitis media always result in hearing loss. However, isn’t this mostly true for chronic suppurative otitis media, and not otitis media in general. Could the authors perhaps give a reference and some more information about how often this happens?

Methods

2. Unfortunately, I am not a statistician, but the number of observations seems rather small and makes me wonder if this allows valid results when taking so many confounders into account.

3. The authors describe that data at age 3 weeks were too few; including the 3 week data gave quite similar results. Some information on carriage data at age 3 weeks would be interesting, perhaps these could be included (in appendix)?

4. PCV was offered, but there is no information on vaccine uptake in both groups, nor is vaccination status included in the analysis. Although I agree with the authors that overall pneumococcal carriage does not change much after vaccination, I would be interested to know a little bit more about vaccination status. Was there a difference between the two groups in vaccine uptake? Could vaccination status confound the results?

Results

5. Although the authors mention ‘adjusting for S. aureus because of high rates’, I can’t find the exact rates on S. aureus. I would suggest including these, as well as adding S. aureus to Table 1, since S. aureus is also included in the analysis, is it?

6. The authors mention a difference in carriage rates compared to study in Northern Territories, but do not elaborate on possible explanations. Could there be underreporting this study? Were different methods used?
Discussion

7. The authors spend quite some words on future studies, but elaborate not much on proposed mechanisms; what could explain the association between ntHI and Aborigials and Mcat in non-A? What is known in literature about this etc.

8. I would say that the conclusion section is too long and go beyond the results of the present article and put particular focus on future studies. Furthermore, the authors suggest early immunization but have not debated this issue in the discussion. Would that prevent carriage and subsequent otitis media?

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**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