Reviewer's report

Title: Streptococcus pneumoniae Serotype 3 among Costa Rican Children with Otitis Media: clinical, epidemiological characteristics and antimicrobial resistance patterns

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Reviewer: Eugene Leibovitz

Reviewer's report:

Dr. Abdelnour and co. describe in this manuscript some microbiological, clinical and epidemiological aspects related to acute otitis media (AOM) caused by Streptococcus pneumoniae serotype 3 among Costa-Rican children. They analyzed all the middle ear fluid samples available from their database built between 1997-2007 from children with AOM enrolled in Costa-Rica in various antibiotic efficacy clinical trials. They showed an increase in the number of cases recorded during 2004-2005, the significantly higher presence of infection with this serotype in older children > 24 months of age and encouragingly low rates of resistance to most of the antibiotics studied.

Overall, the number of cases caused by this serotype is small (34 cases) but it represents, in fact, the third (10%) pneumococcal serotype in frequency among all the pneumococcal serotypes enrolled during the study period, so it is clear that this serotype is indeed frequent and important. In addition, this serotype is not included in the presently available antipneumococcal 7 and 10-valent conjugated vaccines and also emerged as a major replacement organism causing AOM (and probably additional disease entities) in children. Therefore, surveillance studies like the present one are important in documenting the epidemiology of pneumococcal-AOM particularly in the post-vaccine introduction era.

Comments:

1. The authors should used consistently along the manuscript the term acute otitis media instead of otitis media.
2. They should also use in a consistent manner the term 7-valent pneumococcal conjugate vaccine (PCV-7).
3. Abstract-conclusion. The data on susceptibility to antibiotics other than penicillin should be presented in the results section and the last 2 sentences of the conclusions should be reformulated appropriately.
4. Introduction, page 5, second paragraph: the replacement phenomenon was observed, not presented.
5. Material and methods, page 8, first paragraph: the authors should delete their “detailed” explanation on why some strains were not analyzed.
6. Results, page 10, clinical outcome: it will be interesting to show which were the antibiotics used in the treatment of the 34 cases and if clinical failures were recorded or not.

7. Discussion, page 12. The data on the the mucoid-looking colonies should be presented in the results section.

8. There are some “typos” to be corrected in the text and figure one (“otros”!!!

**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:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests.