Reviewer’s report

Title: Streptococcus pneumoniae colonisation in children and adolescents with asthma: impact of the heptavalent pneumococcal conjugate vaccine and evaluation of potential effect of thirteen-valent pneumococcal conjugate vaccine

Version: 0 Date: 21 Sep 2015

Reviewer: Filippo Ansaldi

Reviewer’s report:

The manuscript is about the evaluation of Streptococcus pneumoniae carriage in children and adolescents with asthma, that are patients included among those with chronic underlying diseases for whom pneumococcal vaccine is recommended. Authors identified S. pneumoniae in the swabs of 45.4% and demonstrated no association between carriage and vaccination status. Furthermore, they identified serotypes 19F, 4 and 9V as the most frequent in vaccinated subjects. Authors concluded highlighting the criticism of the duration of the protection against colonization provided by pneumococcal conjugate vaccine and of the possibility of re-colonization by the same pneumococcal serotypes included in the vaccine.

The argument is of interest for the scientific community, especially for public health and immunization strategies. The paper is clearly laid out and the references are appropriate; all the key elements are present; figures and legends are accurate. The article does not need a revision of the English language. In the future, further analysis could be conducted evaluating carriage in enrolled subjects by the vaccination date. This could provide further information about the duration of the protection against colonisation provided by pneumococcal conjugate vaccine.

Nevertheless, the manuscript is acceptable for publication, because analysis were conducted with high accuracy and the results increase knowledge in the field.

Here below, authors can find a list of minor revisions:

- Title:

Authors could consider to finish the title as follows: "… and evaluation of potential effect of 13-valent conjugate vaccine".

- Short title:

Authors could modify the short title as follows: "pneumococcal colonization in asthmatic patients".

- Abstract

- Line 56: Authors should change "13-valent PCV" in "PCV13"
- Background

- Results: as in the "methods" section Authors specify that enrolled patients ranged from 6 to 17 years old, the considered three age groups could be described as follows: "6-10, 11-14, 15-17"; Authors should discuss the choice of considering different ranges in age groups and the different distribution of subjects among age groups. Furthermore, given the evidence of the association between pneumococcal carriage and male gender, Authors could evaluate the proportion of males in the three age groups.

- Lines 193-195: Authors state that "the proportion of carriers of any pneumococcal serotype and any serotype included in PCV7 were higher among the vaccinated subjects" but data shown in table 3 demonstrate that the proportion of carriers of any pneumococcal serotype and any serotype included in PCV7 were higher among the unvaccinated subjects, when the whole population is considered: please verify

- Line 205: Authors refers to "serotypes not included in PCV13" in the text and to "non-typeable serotypes in table 4", so they could consider to uniform these definition

- Discussion:

- Line 282: Authors should correct "t" in "it" and "Iiit" in "It"

- Line 298: Authors should eliminate "to be"

- Table 4: Authors could discern PCV7 serotypes from PCV13 additional serotypes

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.

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.

Yes
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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I have previously participated at speaker’s bureaus and advisory board meetings sponsored by GSK, Novartis, Pfizer, and Sanofi Pasteur and I have received research funding as investigator or principal investigator from Crucell Berna, GSK, Novartis, Pfizer, and Sanofi Pasteur. No other relationships/conditions/circumstances that present a potential conflict of interest exist.

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