Reviewer's report

**Title:** Clinical outcome of pneumococcal meningitis during the emergence of pencillin-resistant Streptococcus pneumoniae: an observational study

**Version:** 2 **Date:** 26 April 2011

**Reviewer:** Angel Vila-Corcoles

**Reviewer's report:**

Title: Clinical outcome of pneumococcal meningitis during the emergence of pencillin-resistant Streptococcus pneumoniae: an observational study.

Date: 25 April 2011

Reviewer: Angel Vila-Corcoles

General comments:

This study analyses the association between penicillin resistance on fatal outcomes of pneumococcal meningitis diagnosed during a ten year period (1995-2005) in an infectious diseases hospital in Brazil (n=548 cases). The authors report that 17% of cases were penicillin-resistant and overall case fatality rate was 37%. As main result, penicillin resistance was associated with higher case-fatality (Hazard Ratio, 1.63; 95% Confidence Interval, 1.09-2.43), but Penicillin-resistance was not associated with higher case-fatality when initial therapy included ceftriaxone. The study represents a contribution to its field, and data can be interesting for those involved with in the care of pneumococcal infections, especially in developing countries.

The paper is well written and it is scientifically and methodologically accurate.

In general, this is an article whose findings are important to those with closely related research interests.

I have some discretionary comment about the Abstract, the Results and the Reference section (see below).

**Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)**

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**Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)**

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**Discretionary Revisions (which the author can choose to ignore)**

1.- Abstract: I suggest to add the value of hazard ratio and its 95% CI in the last sentence of the Results paragraph (e.g, “, Penicillin-resistance was not associated with higher case-fatality when initial therapy included ceftriaxone”)
(hazard ratio and confidence interval)
The conclusion is based on this finding, so it should be quantified in the Results.

2.- Results section, first paragraph.
The first phrase of the results only comments that 548 pneumococcal meningitis cases were included in the analysis. Below, the second phrase directly comments the results about penicillin-resistant strains observed in the study.
I believe that a paragraph describing characteristics of the 548 study subjects would be welcome at the beginning of the Results section.

3.- Results section, second paragraph
The authors comment that “serotypes included in the 10-valent pneumococcal conjugate vaccine accounted for 271 (49%) of 548 cases”.
It would be possible also include a phrase reporting serotype coverage for the PCV13?

4.- Results.
Last sentence of the Results section (“Penicillin-resistance was not associated with higher case-fatality when initial therapy included ceftriaxone”): Same commentary that suggested for Abstract

5.- References
Reference 2 does not contain authors. I suggest revise it.

What next?: Accept after discretionary revisions
Level of interest: An article whose findings are important to those with closely related research interests
Quality of written English: Acceptable
Statistical review: No
Declaration of competing interests: I declare that I have no competing interests

Angel Vila-Corcoles

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

**Quality of written English:** Acceptable

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