Reviewer's report

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

Version: 2 Date: 1 March 2011

Reviewer: Keith Klugman

Reviewer's report:

Major revision
1. There are few datasets in which outcomes of meningitis, susceptibility data and treatments given are recorded so this is a potentially important report. The main finding is an increased risk in an adjusted multivariable model of mortality associated with increased penicillin MIC - this association apparently disappeared when ceftriaxone was given as presumptive primary therapy - although the regression data are shown for the association of increased pen MIC with mortality - the basis for the analysis with primary ceftriaxone therapy alone is not shown - nor is the analysis shown of all cases in which ceftriaxone was not primary therapy - these analyses should be shown

2. The analysis of discordant therapy was not significant - the inference from the conclusion above and in fact the conclusion reached by the authors is that penicillin therapy failed when intermediately susceptible strains were treated with penicillin - while this is biologically plausible the authors need to explain why the discordant analysis was not significant - is it a question of small numbers? - a related question is the mortality which is high in Table 1 for unknown or "other" treatment - while the unknown therapy is a worry as we cannot make any inferences about these cases - is the failure of other therapy a driver of the overall association with failure?

Minor comments
1. Hazard ratio is 1.63 in abstract and 1.62 in results table
2. 21 discordant cases in text and 22 discordant in table 2

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 I have no competing interests