Reviewer's report

Title: The impact of prior outpatient ACE inhibitor use on 30-day mortality for patients hospitalized with community-acquired pneumonia

Version: 1 Date: 16 May 2005

Reviewer: David Johnson

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General
These authors use a retrospective data base to assess the association with mortality and ACE inhibitors after hospitalization for CAP. They find a strong association and try to make clinical statements

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)
This is a study of association and therefore the strongest statements should be that clinical trials are warranted and no increase use of ACE inhibitors other than for established his reasons are warranted.

It is not clear how the definition of community acquired pneumonia was made. How was nosocomial pneumonia and post operative pneumonia removed? Were transfers from other hospitals excluded as nosocomial pneumonias?

Death follow up was likely incomplete. Was death determination biased between groups?

Was use of ACE biased. Those most likely to live were most likely to able to purchase drugs? The effect of Ace may have been confounded by the ability to purchase.

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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)
The use the propensity score could have been based upon
1) Use of drug and adding score to the regression with double entry of the some covariates. The propensity score variable was not noted in the regression results.
2) The risk of death could have been modeled by propensity score of all covariates. The cases could have been matched by propensity score and a pseudo randomized trial reported with matching of cases by propensity score.
The latter is a more powerful method to devise the study

Only 50% of those with a pneumonia received antibiotics in the first 24 hours. Either care was quite poor or the admission dx and discharge dx were often dissimilar. This fact question the dx of pneumonia to that of other disease (heart failure?) where the use of ACE would be known and useful.

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Discretionary Revisions (which the author can choose to ignore)

What next?: Accept after minor essential revisions

Level of interest: An article of importance in its field

Quality of written English: Needs some language corrections before being published

Statistical review: No