Reviewer's report

Title: Moraxella catarrhalis acquisition, airway inflammation and protease-antiprotease balance in chronic obstructive pulmonary disease

Version: 1 Date: 9 July 2009

Reviewer: Terence AR Seemungal

Reviewer's report:

Major Comments

1. Abstract is weak. It does not reflect the contents of the paper.
2. Background of abstract, the phrase: 'are not well studied'. This phrase in the background is argumentative. Please rephrase and be factual. If something is not well studies please say exactly what it is. The study does not appear justified from the background as stated here. Why have you chosen to look at SLPI, IL6 and IL8 amongst the many inflammatory markers found in the lower airway?
3. What is the hypothesis to be tested? Please state concisely in abstract.
4. Results of abstract: need to show the data.
5. Introduction: The hypothesis needs to be more clearly focused. Are you testing effects of M Cat on SLPI?
6. Methods: you state that between 1994 to 2000, there were 120 acquisitions of M Cat. Kindly define what you mean by an acquisition.
7. Secondly, you refer to your 2005 paper in AJRCCM (ref 12), are you therefore reanalysing data that was already published? If this is a new analysis of data that is already published then it may well be extremely important but you do need to say so and can you state how this study differs from the 2005 data so far published? Was the data in this study used in some form in the 2005 paper which you quoted?
8. In the first paragraph of the methods you state or give the impression that all patients had COPD, is this correct ie was the FEV1/FVC less than 70% for all patients?
9. The paper seems to be about 74 ‘acquisitions of M Cat’ but in the methods you refer to 120 acquisitions? Which is it?
10. Results: the statement of the results is sometimes confusing: Eg: ‘We analyzed the data further to determine whether airway inflammation increases with colonization by M. catarrhalis, and to compare these changes with those seen with exacerbation.’ But in the paragraph above you already looked at changes with M Cat.
11. The phrase: ‘SLPI is a major anti-protease in the airway lumen, while NE reflects uninhibited protease activity’ appears for the first time in the results. This should form part of your background. You are suggesting that there is a
reciprocal relationship between these two parameters but further on the discussion you admit that this relationship is not well understood.

12. Figure 5 shows trend line for the relation between SLPI and NE. You state that this is a linear regression. However you do not show the data for the regression calculations anywhere nor is the model explained. This is confusing. Further, is the line drawn in Fig 5 actually the regression line, if so what software was used?

13. ‘Our clinic recruits patients with smoking-induced’ is stated in the discussion of limitations. Thus have you included COPD or Chronic bronchitics in the study or did you recruits have both conditions? Please state clearly in our inclusion criteria.

14. You state in your discussion that: ‘Colonization episodes by definition were not associated with symptoms of respiratory infection, making a concomitant viral infection when these samples were collected unlikely’. Surely you are assuming an acute viral infection? What about latent viral infection?

Level of interest: An article of limited interest

Quality of written English: Acceptable

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

Declaration of competing interests:

None to declare