Author's response to reviews

Title: Predictors of Mortality of Patients with Acute Respiratory Failure secondary to Chronic Obstructive Pulmonary Disease admitted to an Intensive Care Unit: A one year study

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Author's response to reviews:

1. Comment: The paper may benefit from a little more clinical information. Could hypoalbuminemia be due to particular disease states like cirrhosis?

Response: We appreciate the pertinent need of elaborating further on the clinical profile of the patient. The same has been now been added in the revised manuscript in the 'Results' section (page 8, para 1, line 7-9). We would also like to submit here that none of the patients in the present study had evidence of underlying chronic liver disease. Although detailed work including ultrasonography or upper GI endoscopy was not done, the same was determined on the basis of clinical evaluation and other biochemical liver function tests that were routinely done for all patients.

2. Comment: Also, it would be nice to have a more complete list of the primary valuables that were included in the multivariable analysis. I suppose Table 2 only presents a partial list of these variables.

Response: We acknowledge the error on our part in not describing the variables included in the multivariable analysis earlier. In addition to baseline parameters significantly different between the two groups on univariate analysis, demographic characteristics (age and sex), presence of cor pulmonale and cause of exacerbation of COPD, had been included as covariates in the multivariate equation. The same has now been described in the 'Results' section (page 9, para 2, line 2-5). We have also clarified that we included only the baseline characteristics to determine the predictors of mortality in these patients.

3. Comment: Also the predictors of mortality should be best identified early after admission. As an example (referring to table 2), the time of development of sepsis is an important issue: Sepsis may in some patients represent a terminal, pre-morbid event. To push things to the limit, cardiac arrest is the best predictor of mortality... This remark of course does not invalidate the main result as both the APACHE II score and the albumin concentration were obtained within the first 24 hours after ICU admission, but they are pertinent for the data presentation: Data obtained during the first 24 hours after admission should be separated from those collected later during the ICU stay.

Response: All authors concurred with this comment of the esteemed reviewer. We appreciate the concern of the reviewer and have clarified that only baseline characteristics were included in the multivariate equation in the 'Methods' (page 6, para 2, line 6-7) and 'Results' (page 9, para 2, line 3-5) section. Regarding the variables such as development of sepsis and renal failure in the multivariate equation we would like to submit that these two variables were not entered as a covariates even in the original equation. Nonetheless, we would also like to acknowledge that this was more due to default than design as development of both these complications was associated with 100% mortality. Indeed, it is difficult to control for variables that have such extreme values, in a multivariate equation. Therefore these two variables were not included as covariates in the multivariate equation. Finally, after going through the data entry sheets we determined that only one patient had evidence of sepsis at admission and the same has now been elaborated in the manuscript (page 8, para 1, line 12-13). Other patients developed it during the hospital course.