Reviewer’s report

Title: The Ratio of CRP to Prealbumin Levels Predict Mortality in Patients with Hospital-acquired Acute Kidney Injury

Version: 1 Date: 23 January 2011

Reviewer: Jose Ramon Perez-Valdivieso

Reviewer’s report:

The study aims to evaluate the ability of several laboratory markers as predictors for in-hospital mortality in patients who developed Acute Kidney Injury. Although the authors should be praised for their efforts, some important questions must be asked.

1) To begin with, there are some studies that had reported the relationship between CRP or prealbumin and AKI prognosis before. Does this study show a real novel progress combining CRP and prealbumin in a ratio?

2) On the other hand, an adherence to the STROBE statement would strengthen the study. It is not clear how the cases recruitment was made, or the sources and methods for selection of the controls. Please, describe in deep the randomization procedure. In addition, the small number of patients included could have underpowered the statistical analysis. Furthermore, explain how the study size was arrived at. Again, develop the limitations discussion. Also, it is surprising to find a 74% of males in the population. In larger series studying AKI, the proportion found is about a 60%, so doubts about the external validity of the results could be raised.

3) I think that the results section and the tables could be improved. Please, check and rewrite. This will enhance the manuscript message. It is important to give a clear and concise idea of your work. Add the p value for RIFLE criteria in the univariate analysis.

4) Add more references for the background and method sections, for instance, what are the studies about cholesterol or prealbumin? Give citations for the RIFLE and SOFA scores....

5) In the clinical data section, the explanations about SIRS criteria could be shortened.

6) About the multivariate analysis, why not variables such as mechanic ventilation, or severity of the acute kidney injury were included? It could be argued that patients did worse because of those reasons. This is also a major point that must be clarified.

7) At the same time, I have doubts about the statement that the combined factors were all significantly higher if only a univariate analysis have been done.

8) The authors should explain why they chose the cut-off value of 0.42 for the ratio CRP/prealbumin. Was it the median, or something else?
9) About the discussion section, albumin could not be proven to be associated with 90 days mortality after adjusting for model 1 or, on the contrary, table 3 is wrong. Or at least, state if a different p value was accepted in those analyses.

10) I am a bit confused. Is it true that Fiaccadori´s work in 1999 comprises the largest group of AKI patients so far? (discussion section)

11) Unify the term for sex and gender. Choose one or the other.

12) Please, provide bibliography to the statement CRP is the best characterized biomarker of inflammation.

13) Some of the references at pages 16 and 17 look incomplete and should be corrected, e.g. /10, /12, /13

14) First name, Perez-Valdivieso.

The manuscript:
- Is an original work of the authors: Yes
- Is result of a methodologically sound process: Yes
- Has reported results which are clear and supports the proposed conclusions: It must be improved.

What next?: Accept after mayor essential revisions

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

Quality of written English: Good

Statistical review: I do not feel adequately qualified to fully assess the statistics.

Declaration of competing interests: I declare I have no competing interests.

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

**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 that I have no competing interests