Author's response to reviews

Title: Acute kidney injury in an intensive care unit of a general hospital with emergency room specializing in trauma: an observational prospective study

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Version: 3 Date: 1 February 2015

Author's response to reviews: see over
Dear Dr. Henderson,

We revised the manuscript in light of the reviewers' comments.

All recommendations were taken into consideration, as described below.

**I-Concerning Dr. Kevin Finkel's comments:**

1- We corrected the tables that were mislabeled in the *Results* section.

2- We changed “ICU profile” for “type of ICU” in line 4 of the *Abstract*.

3- We clarified the statement about the informed consent in *Methods*, page 6, line 10, and we described the method used to exclude chronic kidney disease patients in *Methods*, page 6, starting on line 16.

4a- We added to each AKI stage the information about which criteria define AKI (urine output, creatinine change or both) in *Results*, page 9, in lines 5 to 8.

4b- We deleted any comment about AKI being more frequent in cardiac patients based on a reduced number of patients. In addition, as suggested, we removed from Table 2 the specific causes of non-trauma cases, and only compared trauma with non-trauma categories, finding no difference. It was modified in the 2nd paragraph of *Results*, page 9.

5- We modified our comments about comparisons between trauma and non-trauma cases. As suggested, in this new version, we now emphasize that lack of protective facts of trauma
regarding AKI may be due to sample characteristics (3rd paragraph, page 12, in lines 5 to 8 of Discussion).

II-Concerning Dr. David Skinner’s comments:

#Major revisions#

1-Patients’ weight was estimated. This procedure is now stated in Methods, page 7 (lines 12-14). Furthermore, estimation of patients’ weight was added to the limitations (Limitations section, page 15, lines 15-18). We performed KDIGO without any clearance formula, but taking into consideration urine output and creatinine changes. Creatinine baseline was the lowest known creatinine value (most of them known through medical records). For unknown creatinine baseline, the lowest creatinine value during the stay in the ICU was considered. This explanation was added to Methods (page 7, lines 8 to 11). In this new version, as suggested by Dr. Finkel, we added the information about criteria definition (urine output only; creatinine change only; or both) for each AKI stage (Results, page 9 in lines 5 to 8).

2-The classification of trauma cases was based on the main mechanism of trauma (in the same way we classified non-trauma categories, as we used the main cause, in other words, the main clinical complication to determine the categories: neurologic, respiratory etc.). We avoided the category “polytrauma” because it is known that the definition and use of the term “polytrauma” is inconsistent and lacks validation. Moreover, it would be difficult to apply such a definition in our study, since we had no Injury Severity Score, whose cutoffs (usually ≥16) are necessary for polytrauma definition. In order to make this clear, we changed “Trauma cases were divided according to the mechanism…” to “Trauma cases were divided according to the main mechanism…” in Methods, page 6, line 23.

3-Unfortunately we cannot calculate ISS or TRISS, so this remains as a limitation in this new version.
4- We modified our comments about comparisons between trauma and non-trauma. We added a new sentence, based on suggestions by Dr. Finkel, emphasizing that lack of protective facts of trauma regarding AKI may be due to sample characteristics (Discussion, page 12, lines 5-8).

5- We agreed with the comment about the lack of evidence to state that trauma patients were expected to have low urine output. In this new version, we deleted this statement.

6- We included the number of patients in the heading of Tables 2 and 4.

7- We modified the category of admission diagnosis in Table 2 (summarizing in trauma and non-trauma), as suggested by Dr. Finkel, and included the p-value.

#Minor revisions#

1- We replaced “obstetrical” with “obstetric” (Background, page 4, line 12).

2- We replaced “bringing large scale replacement of bicycles for” with “bringing large scale replacement of bicycles with” (Background, page 4, line 21).

3- We removed “assistance” from the Methods section.

4- We changed “reference facility” to “referral facility” (Methods, page 6, line 4).

5- We corrected the word “aneurysms” (Methods, page 7, line 1).

6- We changed the entire sentence in which the word “aneurysms” is included, as suggested. The new sentence is in lines 24 and 25 (page 6) and lines 1 and 2 (page 7).

7- We deleted “due to special interest of our study in trauma” from the Methods section.

8- We deleted “virtually” and all the “of” from the 1st paragraph of the Results section.

9- We changed “presented higher APACHE II score” to “had higher APACHE II score” (Results, page 9, line 12).

10- We inserted “an” (Discussion, page 11, line 4).

11- We added a new section called Limitations (page 15).

12- Now it is “Injury Severity Score” in line 11 of page 15 instead of “Injury Severity Scale”.
13-We changed the section name from “Conclusions” to “Conclusion” (page 16, line 1).
14-We rewrote the first sentence of Conclusion (page 16, lines 3 and 4) and also in the Abstract (page 3, lines 1 and 2).

III-Editor’s comments

1-We included small size of the sample as a limitation (Limitations, page 15, lines 18 and 19).
2-We specified units of measurement in the Tables.
3-We included an Acknowledgements section.

Yours sincerely,
Paulo Roberto Santos
(first author)