Reviewer's report

Title: An association between systolic blood pressure and stroke among patients with impaired consciousness in out-of-hospital emergency settings

Version: 1 Date: 27 July 2013

Reviewer: Mohamud Daya

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Compulsory
1. Abstract: Your results need to be clarified so that it is very clear that you are only referring to EMS transported patients. In some EMS systems, not every EMS encounter is transported. In this study, your population was selected from the cohort of transported cases of which XX had impaired consciousness and YY had SBP measurements done in the field.

2. JCS stratified analysis. I believe that this is very important to your paper and would suggest you incorporate this into your figures 3 (3 lines for each LOC category). The main message here is that the strength of association between SBP and stroke type is very powerful especially with ICH and to some extent with SAH (mild, mod LOC). This is not the case with AIS. Hence, if one has a choice between a PSC and CSC (NSG, Interventional Neuro), the SBP can be an important triage guide for selected patients. Further studies using your own dataset could help identify an accurate cutoff point in this regard for SBP in conjunction with LOC. This makes the EMS triage decision more precise and reduces the risk of overwhelming CSC with patients that do not need the advanced capabilities. Please check the 0.91 in the table (your CI are 7.79 to 1.06) Should this be 0.76?

3. Intrinsic or endogenous is an unfamiliar term. It appears you wanted to remove Obstetrical and Trauma cases and focus on just medical cases…..best to just state that.

4. Suggest you move the discussion about the group you chose for comparison to the methods section since it fits better there. Please clarify if this was done a priori or post-hoc.

Minor
5. The importance of your paper is that the SBP in the patient with impaired LOC may be a helpful guide as to where to transport a patient especially in communities that have both CSC and PSC as options.

6. Selection bias: Thank you for the additional analysis. I believe that the data are important to report since you had more patients in the severe LOC group that were not enrolled. It is not clear if this would have led to a differential bias or not in terms of your findings. I suspect not. Similarly the HR was different as well between the 2 groups. If this was related to more ICH and ICP increases in that
group then this might have affected your findings.

If the type of group was not defined then this might have affected your findings.

Discretionary

7. Stroke mimics – there are several that are common including hypoglycemia, complicated migraine, prolonged seizures and subdural hematomas (more common in the elderly)

Level of interest: An article of importance in its field

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

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

Declaration of competing interests:

I declare that I have no competing interests