Reviewer’s report

Title: Prognosis of critically ill cirrhotic versus non-cirrhotic patients: A comprehensive score-matched study

Version: 4 Date: 11 August 2014

Reviewer: Kevin Zhao

Reviewer’s report:

• Major Compulsory Revisions
None

• Minor Essential Revisions
None

• Discretionary Revisions

1) In the abstract and results section, it states that a total of 336 critically ill patients were enrolled. However, the study has 174 patients in the APACHE III arm and 110 patients in the SOFA arm (total of 284). Please mention why 52 patients were excluded.

2) Could you include in the methods section how your study accounted for mortality in the length of stay data? I find it interesting that the non-cirrhotics in the APACHE-III matched group had a 14% lower mortality than cirrhotics, but non-cirrhotics had an increased ICU length of stay by 5 days.

3) On page 12, line 13, the study contends that “renal function plays a critical role in the outcomes of critically ill cirrhotic patients, and also supports that the RIFLE classification is independently associated with the outcomes of critically ill cirrhotic patients.” While I understand the premise of that statement, I don’t see specific data that draws that conclusion. I don’t see a direct comparison of cirrhotics with and without renal disease on patient outcomes. Perhaps I am misreading the data, but Figure 2A and 2B argue that RIFLE classification results in poorer overall outcomes across ALL ICU patients, but does not make the argument that it specifically covers cirrhotics.

4) In stating that SOFA is superior to APACHE III, the authors contend that MAP, GCS, and RIFLE classification play critical roles. While those categories in tables 2 and 3 are statistically different, there are other statistically significant differences as well, such as albumin, Hb, HCO3. Are those worth mentioning as well?

5) It may be worth mentioning that a large difference between APACHE III and SOFA-matched data is the % of patients in shock. While both tables note statistically significant differences (cirrhotics less likely to be in shock than...
non-cirrhotics), the difference is quite remarkable. There is a 13.8% difference in the APACHE-III matched group while there is a 38.2% difference in the SOFA-matched group.

6) I would like to see more emphasis and explanation in the discussion on why SOFA is a superior to APACHE III for prognosticating cirrhotics.

**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.