Reviewer’s report

Title: Anemia status, hemoglobin concentration and outcome after acute stroke: a cohort study

Version: 1 Date: 16 October 2009

Reviewer: Kazuma Nakagawa

Reviewer’s report:

This is a well-written manuscript describing the association between admission Hgb and outcome after stroke using a relatively large patient population. The authors demonstrated non-linear association with increased risk of death at both extreme low and high Hgb. The authors appropriately used the admission Hgb as the surrogate for baseline anemic status rather than using the mid-hospital course anemia status which could been confounded by numerous variables.

Major Compulsatory Revisions: None

Minor Essential Revisions:

• In table 2, I recommend putting the actual number of patients plus (%) as in Table 1 rather than just reporting the percentage.

• In page 10, add “to” between “found” and “improve.” (i.e., Hemodilution therapy was not found “to” improve overall survival).

Discretionary Revisions:

• It would be appropriate to mention the institution’s Hgb threshold for transfusion if there is any institutional guideline.

• In the logistic regression model, the authors included age, gender, stroke type, stroke severity, prior disability, chronic kidney disease, other cardiac disease and malignancy. It would be more informative to also include whether or not the patient received transfusion in the model since transfusion itself is associated with poor outcome and increased risk of infection in the ICU. However, the authors discussed this limitation in Discussion.

• What were some of the reasons why 20% of the patients did not have a follow-up interview at 1 month, and 15% of the patients at 1 year? Are these the more disabled patients who might be important to be included in the final analysis? If the reason does not bias the population of the outcome group, the authors’ results should be OK to be published, but they should mention this in the Discussion.

Level of interest: An article of importance in its field
Quality of written English: Acceptable

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.