Reviewer’s report

Title: Optimal INR Level for Warfarin Therapy after Mechanical Mitral Valve Replacement

Version: 0 Date: 10 Dec 2018

Reviewer: Nathan Clark

Reviewer's report:

This is a retrospective study evaluating adult Thai patients having prosthetic mitral valve replacement between 2011 and 2015 to ascertain the optimal INR value for warfarin therapy. Overall, the manuscript is well written and study activities were appropriately reviewed by Institutional Review Board at the Siriraj Hospital.

Major considerations -
The term prosthetic could refer to either mechanical or tissue valve replacement. Table 1 indicates all valves are mechanical, bi-leaflet valves. I would suggest referring to the valves as "mechanical" throughout the paper for clarity and including the valve type in the first paragraph of the results.

The approach to determining the amount of time spent in each INR group is not the Rosendaal method. Rosendaal used linear interpolation where the INR travels in a straight line between points. The process of dividing the duration between INRs in half and attributing half the interval to each INR is different.

Could you explain the rationale for excluding patients with a history of bleeding or thromboembolic events? As this is a high risk population, many patients will survive such events and having information about optimal INR goals for them would have been useful.

The definition of major bleeding does not follow that provided by the International Society of Thrombosis and Haemostasis. Specifically, classifying patients with GI bleeding or hemoptyisis that required hospital admission for observation only without the need for blood transfusion or with a corresponding drop in hemoglobin of at least 2 g/dl could have led to overestimation in major bleeding rates compared to ISTH.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Unable to assess
**Does the work include the necessary controls?**
If not, please specify which controls are required in your comments to the authors.

Yes

**Are the conclusions drawn adequately supported by the data shown?**
If not, please explain in your comments to the authors.

Yes

**Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?**
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I recommend additional statistical review

**Quality of written English**
Please indicate the quality of language in the manuscript:

Acceptable

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