Reviewer’s report

Title: N-terminal pro-brain natriuretic peptide levels had an independent and added ability in the evaluation of all-cause mortality in older Chinese patients with atrial fibrillation

Version: 0 Date: 10 Oct 2018

Reviewer: Reviewer 2

Reviewer's report:

PEER REVIEWER ASSESSMENTS:

OBJECTIVE - Full research articles: is there a clear objective that addresses a testable research question(s) (brief or other article types: is there a clear objective)?

Yes - there is a clear objective

DESIGN - Is the current approach (including controls and analysis protocols) appropriate for the objective?

Yes - the approach is appropriate

EXECUTION - Are the experiments and analyses performed with technical rigor to allow confidence in the results?

Yes - experiments and analyses were performed appropriately

INTERPRETATION - Is the current interpretation/discussion of the results reasonable and not overstated?

No - there are minor issues

OVERALL MANUSCRIPT POTENTIAL - Could an appropriately REVISED version of this work represent a technically sound contribution?

Probably - with minor revisions
GENERAL COMMENTS: In this study, the authors describe use of plasma level of N-terminal pro-brain natriuretic peptide (NT-proBNP) measurement in Chinese patients with atrial fibrillation as a predictor of patient prognosis. Cox regression analyses were used to measure the association between NT-proBNP levels and mortality. Similar analyses were used to assess two other measures called CHADS2 and CHA2DS2VASc scores. Combined measures of NT-proBNP with each of these scores as well as a model incorporating several measures, including age, hemoglobin, fasting blood glucose, glomerular filtration rate and NT-proBNP were also used to measure association with mortality. Of all methods, the model described in this study provided the highest c-statistic, suggesting that the model is the best predictor of patient mortality.

This study provides important direction toward better predicting patient outcome based on various measures and is overall well-done. My primary concerns with the current manuscript are related to the amount of information provided, as detailed below.

REQUESTED REVISIONS:

1. What are CHADS2 and CHA2DS2VASc scores? Please define CHADS2 and CHA2DS2VASc scores or briefly indicate the factors included in these scores within the background sections. This information is needed for the reader to appreciate how these scores differ from NT-proBNP values are scores including these values.

2. Please describe what the ARISTOTLE and RE-LY trials are in the Background section when mentioning these trials.

3. In the background section, upon introduction of NT-proBNP, the authors should clarify that the level of NT-proBNP is the aspect of NT-proBNP that is correlated with patient prognosis, as opposed to other aspects of NT-proBNP, such as composition or localization, for example.

4. What are the "traditional scores" in prognostic evaluation of patients with these cardiovascular diseases that the authors refer to on line 23 of page 4? I assume the authors are referring to CHADS2 and CHA2DS2VASc, but it is not clear.

5. On Line 59 of page 8, the authors refer to the "multinormality assumption" Do you mean multivariate normality assumption?
6. The details of the model based on NT-proBNP need to be provided. The authors state which factors are incorporated, but what else is involved in this model. What is the formula used to incorporate each of the factors? This information is needed if their model is to be used in further studies or in the clinic.

Minor points:

1. Please define all abbreviations on first use. Abbreviations are also missing from the abbreviations section on page 11.

2. The legend for Figure 1 should indicate that the graph includes e-statistics based on other methods, including the model generated in this study. Only three of the six methods shown in the graph are listed in the figure title.

3. The manuscript should be edited for grammar.

Note: This reviewer report can be downloaded - see attached pdf file.

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

Yes

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.

No

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.

Not relevant to this manuscript

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

Needs some language corrections before being published
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