Author’s response to reviews

Title: Factors for Short-term Outcomes in Patients with a Minor Stroke: Results from China National Stroke Registry

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Response to Reviewers

Reviewer #1: The paper is relevant and well done. Some points require further attention:

- In Tables 1, 2, and 3 no p values are reported for the TOAST subtypes except Large-Artery-Atherosclerosis.

Answer: Thank you for your comments. We are sorry for the misunderstanding. In this study, TOAST subtype was analyzed as categorical variable and we used the chi-square test to analyze the differences of TOAST subtype for different outcomes, therefore only one P value was obtained. The meaning of the p value <0.001 was that the rates of TOAST subtypes differed by the patients with different outcomes regarding recurrence, dependency and death. To make it clear, the p value was labeled in the TOAST subtype instead of in the Large-Artery-Atherosclerosis in the revised manuscript. (Highlighted in Page 23, 26 and 29)
- In Figure 2 title it would be informative adding the list of covariates as reported in statistical analyses.

Answer: Thank you for your suggestion. The list of covariates has been added in the revised manuscript as “Adjusted for age, gender, hypertension, diabetes mellitus, dyslipidemia, atrial fibrillation, coronary heart disease, previous stroke, current or previous smoking, moderate or heavy alcohol, BMI at admission, and admission within 24 hours.” (Highlighted in Page 21).

- Discussion. It is likely, as well as widely reported in the literature (McKintosh et al, 2012), that more severe strokes arrive earlier at the hospital. Therefore time from onset to admission might be a proxy for stroke severity even in minor strokes. Authors should comment on this when discussing the association of earlier phase of minor stroke with both recurrence and disability.

Answer: Thank you very much for your comments. We totally agreed with your opinion and adjusted the time from onset to admission in our study. In the revised manuscript, we further discussed it as “The reason was unknown, but it was reported in a previous study (McKintosh et al, 2012) that patients with more severe stroke immediately contacted emergency services after stroke onset to avoid disability and death. Therefore, it’s likely that the time from onset to admission was a proxy for stroke severity even in minor strokes.” (Highlighted in Page 13-14).

- Discussion. Another study limitation of the study is the lack of information about treatments and therapies during hospitalization and at discharge. Authors should comment on this.

Answer: We greatly appreciate your advice. Our study mainly focused on the impact of risk factors before admission on outcomes, so the other potentially significant factors including treatments and therapies variables during hospitalization and at discharge were not included in the analysis. As recommended, we have added this in the limitation of Discussion section in yellow highlighting in page 14 in the revised manuscript.

Reviewer #2: This was a prospective study of the clinical outcomes of 4669 patients with mild stroke (defined as NIHSS ≤4) in a period between 2007 to 2008.

I enjoyed reading the manuscript and the authors should be commended on undertaking an analysis of a sizable cohort of mild stroke patients in order to answer an important and relevant clinical question.

There are a few minor questions which will strengthen the message of the study:

1. Of those patients who developed recurrent stroke, it would be helpful to know the % of untreated atrial fibrillation and % of untreated symptomatic ICA stenoses.
Answer: Thank you very much for your comments. As suggested, we have added the variable (treated atrial fibrillation) in Table 1. As reported in Table 1, 53 patients with atrial fibrillation developed recurrent stroke. Of 53 patients who developed recurrent stroke, 7.5% received treatment and 92.5% did not. At the same time, we have defined the treated atrial fibrillation as the use of anticoagulation agents during hospitalization and after discharge. (Highlighted in Page 7) Furthermore, we have added “Of those patients who developed recurrent stroke in our study, 7.5% patients with atrial fibrillation received anticoagulation, which was lower than the early study.” in Discussion section in yellow highlighting in page 13.

Unfortunately, we didn’t collect the data of detailed information about imaging such as the data of ICA stenosis and we couldn’t achieve the rate of untreated symptomatic ICA stenoses. We have discussed this in the limitation as follows: “the detailed information about imaging was unavailable and the analysis couldn’t be performed”. However, the data of treated large-artery atherosclerosis was available. Of 1951 patients with large-artery atherosclerosis, 1581 (81.0%) received treatment (the use of antiplatelet or lipid-lowering agents during hospitalization or at discharge) and 19.0% did not.

2. Of the patients who died, what were the causes of death? Please provide an outline of the proportion who had recurrent stroke, myocardial infarction etc.

Answer: Thank you for your suggestion. Of 168 patients who died, 77 (45.8%) died of recurrent stroke in our study. The rate is higher than the proportion of unfavorable outcome in Edinburgh Stroke Study where 34.2% patients who died from recurrent stroke. The possible explanation is that in clinical practice of China, unlike western countries, patients have poor medicine compliance. As suggested, we have added “Of 168 patients who died, 77 (45.8%) died of recurrent stroke.” in Result section in page 10.

In this study, the data of other causes of death such as myocardial infarction was not collected. We will research the detailed causes of death in patients with minor stroke in further studies.

The authors would like to thank the reviewers for their constructive and helpful comments to further improve manuscript and study.