Author's response to reviews

Title: Glycated hemoglobin independently or in combination with fasting plasma glucose versus oral glucose tolerance test to detect abnormal glycometabolism in acute ischemic stroke: A Chinese cross-sectional study

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Author's response to reviews: see over
Dear Editor-in-Chief,

We wish to submit the manuscript (original investigation) entitled “Glycated hemoglobin independently or in combination with fasting plasma glucose versus oral glucose tolerance test to detect abnormal glycometabolism in acute ischemic stroke: A Chinese cross-sectional study” for consideration for publication in BMC NEUROLOGY.

A lack of investigation into the efficacy of glycated hemoglobin (HbA1c) as a diagnostic tool for abnormal glycometabolism exists in acute ischemic stroke patients in China and internationally. This paper is aimed to determine whether HbA1c, fasting plasma glucose (FPG), or HbA1c combined with FPG, can be used to screen for diabetes mellitus (DM) or prediabetes in acute ischemic stroke patients without previous DM.

The present study found that the newly-diagnosed DM or prediabetes by the three screening methods, HbA1c, FPG, and oral glucose tolerance test (OGTT) among patients with acute ischemic stroke was not fully concordant and the overlap indexes between them were all lower than 50%. Combining HbA1c and FPG increased the diagnostic rate of DM compared with OGTT, and increased the diagnostic accuracy for DM compared with HbA1c or FPG alone. HbA1c can significantly detect more cases of prediabetes than OGTT. HbA1c of 5.7%-6.4% had a low to moderate concordance with OGTT for prediabetes. Based on the previous findings (Stroke 2012; 43: 650-657 and PLoS One 2013, 8: e80690) and the consensus that DM was a risk factor for stroke recurrence, HbA1c as a diagnostic tool for identifying prediabetes
and HbA1c combined with FPG for detecting DM among acute ischemic stroke were considered as not only contributing to a higher detection rate of abnormal glycometabolism than those detected by OGTT but also being of great significance to secondary stroke prevention.

Serving as the corresponding author, I certify again that I take full responsibility for the data, the analyses and interpretation, and the conduct of the research; I has full access to all of the data; I has the right to publish any and all data separate and apart from the guidance of the sponsor; this report consists of original, unpublished work which is not under consideration for publication elsewhere. We have no conflicts of interest to disclose. I attest to the fact that all authors have read the manuscript, attest to the validity and legitimacy of the data and its interpretation, and agree to its submission to BMC NEUROLOGY

We appreciate your consideration again and look forward to hearing from you soon!

Kind regards,

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