Letter by Zhang Regarding Article, “Diabetes and Poor Outcomes Within 6 Months After Acute Ischemic Stroke: The China National Stroke Registry”

To the Editor:

I read with great interest the prospective study1 that argued that the diabetes mellitus (DM) independently predicted poor outcomes after acute ischemic stroke in Chinese people. Unfortunately, the conclusion of the study might be debatable due to the inappropriate definition of patients as having DM.

The author classified patients as having DM when: “a self-reported physician diagnosis of DM, use of hypoglycemic medications (for example, insulin or sulfonlyureas) during hospitalization, or hypoglycemic medication use at discharge.”1 Actually, the patients classified as having DM in the study might be mixed up by 3 kinds of patients: known DM (DM diagnosed and treated before admission), newly diagnosed DM, and stress hyperglycemia.2 The diagnosis of DM should undergo a standard oral glucose tolerance test after discharge. Dave et al3 reported a high prevalence of transient hyperglycemia in patients with acute stroke. The results of admission oral glucose tolerance test predicted the results at 3 months after discharge with a positive predictive value of 59.1% and a negative predictive value of 77.3%. Because the diagnosis needs information from hospital follow-up that is not usually available, especially in a large multicenter study, for patients with fasting glucose >6.9 mmol/L or random glucose >11.1 mmol/L, glycosylated hemoglobin <7% would qualify as stress hyperglycemia.2 Without these diagnostic tests, the diagnosis of DM was uncertain; patients with stress hyperglycemia might be included. A meta-analysis4 showed that in a patient without diabetes, stress hyperglycemia (definitions varied by studies) was associated with a high risk of mortality after stroke (pooled relative risk, 3.07; 95% CI, 2.50–3.79). However, this was not true for the patient with DM (pooled relative risk, 1.30; 95% CI, 0.49–3.43).

Although the mechanism of stress hyperglycemia is complicated and unclear, it is clear that the pathology and treatment strategy of the stress hyperglycemia are different from DM. In conclusion, it is very important to recognize the stress hyperglycemia from pre-existing DM in the Strock study, or bias might be produced.

Disclosures

None.

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