Author's response to reviews

Title: Multi Component Chinese Medicine Jinzhida improve cognition by reducing endoplasmic reticulum stress and increasing insulin signal transduction in type 2 diabetic rats

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Dear Editors:

On behalf of my co-authors, I am submitting the enclosed manuscript, entitled “Multi Component Chinese Medicine Jinzhida improve cognition by reducing endoplasmic reticulum stress and increasing insulin signal transduction in type 2 diabetic rats,” for possible publication in BMC: Complementary and Alternative Medicine.

Diabetic encephalopathy (DE), also called diabetes-associated cognitive decline, is a complication of type 2 diabetes mellitus (T2DM) that has significant adverse effects on the lives of patients. There are currently no available treatments for DE, so novel strategies for both prevention and treatment are urgently needed. Multi-component Chinese medicine theory is a new theory system of TCMs, which is based on TCMs theory, following the Chinese medicine prescription compatibility principle, application of effective components or effective parts extracts compatibility formula. The Multi component Chinese Medicine Jinzhida (JZD) is a complex extracts designed according to the theory of Multi-component Chinese medicine by our research team, which was from green tea, ginseng and polygala are complex extracts made of theanine, tea polyphenols, ginsenosides and polygalic acid. JZD has been found to have neuroprotective functions in both animal models of Alzheimer’s disease and in patients with mild cognitive decline. Several reports supported a mechanistic connection and similar pathology changes between AD and DE. So in this research we investigated the effects of treatment with JZD on behavioral deficits in T2DM-DE rats’ model. Meanwhile, we found that treatment with JZD reduced the endoplasmic reticulum stress response, enhanced the activity of JNK kinase, and improved insulin signal transduction and insulin resistance in the diabetic rat hippocampus. This study reveals a novel mechanism by which JZD improves cognitive function.

The authors certify that we have each contributed to this manuscript by formulating its experimental design and methods and by participating in the collection, analysis, and interpretation of data.

We have reviewed the final version of the manuscript and approve it for publication. This
manuscript has not been previously published in whole or in part, nor is it being considered for publication elsewhere. This is the first submission of this manuscript.

The authors declare that there are no conflicts of interest associated with this manuscript. I have read and have abided by the statement of ethical standards for manuscripts submitted to BMC: Complementary and Alternative Medicine.

Thank you very much for your consideration.

Sincerely,
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