Reviewer's report

Title: Curcumin activates the podocyte p38MAPK-HSP25 pathway in vitro but does not attenuate streptozotocin-induced diabetic nephropathy in vivo

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Reviewer: Alaaeldin Hamza

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Comments to the Author

This study deals with the very timely and important subject of diabetic nephropathy and the use of curcumin to prevent or minimize the renal dysfunction. I found this document to be overall very well informed, objective and well written. I think that it is largely acceptable but I have a number of comments for author consideration.

My comments are as the following:

1-Although the subject is important, the authors offer very little if anything that is new. Previews work has shown that curcumin can ameliorate some of the nephropathy associated with diabetes. Tikoo et al (2008) confirmed that treatment of diabetic rats with curcumin significantly decreased blood urea nitrogen and creatinine and increased albumin; variables associated with the development of diabetic nephropathy. They suggested that protection against development of diabetic nephropathy by curcumin treatment involved changes in post-translational modifications of histone H3, expression of heat shock protein-27 (HSP-27) and mitogen-activated protein kinase p38 in diabetic kidney.


2-The second concern is the dose of curcumin in animal study. The authors fed mice at dosage 5000 ppm amd 7500 ppm which have been used in mouse model of Alzheimer disease. I think these doses are too low to induce effect in diabetic mice. Chiu et.al. (2009) found that curcumin at dosage level 150mg/kg was effective to prevent diabetes-associated abnormalities in kidney of rats. In another study, 75 mg•kg–1•day–1curcumin ameliorated renal failure in mice. Suresh Babu1 and Srinivasan (1998) fed rats with curumin (0.5% in the diet) to ameliorate renal lesion in diabetic rats.

References

Chiu J, Khan ZA, Farhangkhoee H, Chakrabarti S. Nutrition. 2009 Sep;25(9):964-72. Curcumin prevents diabetes-associated abnormalities in the
kidneys by inhibiting p300 and nuclear factor-kappaB.


3-The paper is quit long, this is uncomfortably large for many people. I would like you omit any non-essential materials from conclusion.

4- Figure 5 needs to represented, the data of blood glucose, changes in body weight and food intake must be added in table.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.