Reviewer's report

Title: Curcumin supplementation could improve diabetes-induced endothelial dysfunction associated with decreased vascular superoxide production and PKC inhibition

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Reviewer: Najma Z Baquer

Reviewer's report:

Review of paper entitled “Curcumin supplementation could improve diabetes-induced endothelial dysfunction associated with decreased vascular superoxide production and PKC inhibition”

I have gone through the above entitled paper in which it was shown that Curcumin supplementation could improve diabetes induced endothelial dysfunction in relation to its potential to decrease superoxide production and PKC inhibition due to its antioxidant properties.

1. Methods: there are some grammatical and construction of sentences mistakes, authors should correct those. How was Curcumin fed to the animals? Although lots of back references are given will be appropriate to include this briefly. Did the KRB have glucose, if yes, what was the concentration of glucose it should be added. Was the KRB gassed with O2/CO2 (95%/5%)? please include this also.

2. Please correct the mistakes (English/grammatical) in the Results section also.

3. Table 1. Although the hypoglycemic effect of Curcumin is shown, the decrease from diabetic levels are only about 20%, and glucose is the main compound inducing all diabetic complications. It can therefore not be used as an antidiabetic on its own, this point should be emphasized by authors in the text in Results and discussion, other parameters measured show a better reversal.

Suggestions to the authors

1. A blood enzyme marker for diabetes could be measured under the experimental conditions

2. The glycated Hb, also does not decrease significantly with Curcumin administration even at the higher concentrations, therefore an enzyme marker is very important to be a part of the study, (of glucose metabolism)

3. Lower concentrations of Vanadium or Manganese, trace metals can be used with Curcumin. Vanadium and Manganese have been shown to have an insulin mimetic effect.

(See following References)

A. Low doses of vanadate and Trigonella synergistically regulate Na+/K+-ATPase activity and GLUT4 translocation in alloxan-diabetic rats. Siddiqui MR,


4. Insulin levels should have been measured and included.

5. It an important collection of data, conclusion should be reduced in the context of the suggestions given.

Paper can be accepted for publication after incorporating the above suggestions.

**Level of interest:** An article of importance in its field

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

'I declare that I have no competing interests'