Reviewer’s report

Title: Effect of atorvastatin on the expression of gamma-glutamyl transferase in apolipoprotein E-knockout mice aortic atherosclerotic plaques

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Reviewer: Johann Auer

Reviewer’s report:

This study investigated whether statins can affect the expression of gamma-glutamyl transpeptidase (GGT) in atherosclerotic plaques. Experiments were performed using apolipoprotein E–knockout (ApoE KO) male mice. Based on the results the authors conclude that an effect of statins on the expression of GGT in atherosclerosis plaques could be demonstrated in this animal model. The data revealed that statins may decrease the expression of GGT in aortic atherosclerotic plaques.

The issue is timely but there are some major points concerning design and presentation of this study that have to be addressed:

Did the authors measure modification of the oxidation state by additional biomarkers (like carbonyl groups, lipid peroxides and total antioxidant capacity)?

The authors state that „expressions of GGT-1, ICAM-1 and VCAM-1 in aorta were measured by RT-PCR“.

Did the authors measure such expressions in the aorta or in the plaques. If the whole aortic tissue was measured, this should be clearly stated.

Did the authors perform a sample size calculation?

The dose of 5mg per kg seems to be very high. That may correspond to a daily dose of about 350mg atorvastatin in an adult subject (on average). Did the authors study dose dependent effects?

Minor comments:

The paper has to be revised with respect to grammar and style thoroughly.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Not suitable for publication unless extensively edited
**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