Reviewer’s report

Title: Effects of semicarbazide-sensitive amine oxidase inhibitors on morphology of aorta and kidney in diabetic rats

Version: 0 Date: 31 Mar 2019

Reviewer: Maria A Delbin

Reviewer's report:

BEND-D-19-00025
Efficacy of semicarbazide-sensitive amine oxidase inhibitors in the prevention of diabetic vascular complications

General Comments: The current study aimed to investigate the effects of aminoguanidine (AG) and 2-bromoethylamine (2-BEA) on the semicarbazide-sensitive amine oxidase (SSA) activity both in vitro and in vivo, and the prevention role of AG and 2-BEA in aortic morphological alterations in experimental model of type 1 diabetes. The study is scientifically relevant and presented interesting results, however some additional information should include to the study.

Major Revision:

- The authors should include in abstract the diabetes model (type 1 diabetes) and the concentration of streptozotocin;
- The authors should include the branch of the blood vessel in title/abstract/conclusion, "aortic vascular complications in type 1 diabetic rats";
- It is suggested to include in title/abstract/conclusion the term "morphological complications", the term vascular complication is too general and the authors did not evaluate vascular function;
- Vascular complications is well accepted consequence of diabetes, the authors should emphasize at the background the importance to evaluate aortic vessel, the background section is superficial and general;
- The authors should include at methods that they collect thoracic aorta;
- The authors must include details about NO measurement. The NO is scavenged rapidly (in seconds), how to preserve for plasma measurement?
- At methods the authors described plasma measurements of SSAO however the results presented serum (Figure 4a);
- The results from figures 2 and 3 could be present in a table for better visualization;
- Aminoguanidine was primary studied as NOS inhibitor, the authors should include a brief paragraph related to the consequence/influence at NO measurement. The IC50 to inhibit SSAO is possible lower than to inhibit NOS (Alberton, et al., 2001 Biochem J: Nitric oxide synthase: structure, function and inhibition);
- What's the consequences to complete inhibits the n aortic samples from DM+AG and DM+2BEA groups, since the NC group presented SSAO activity?
At discussion section, the authors did not perform any experiment related to vascular function, and imply any vascular endothelial dysfunction only with plasma NO and ET-1 is too preliminary; At conclusion, the authors should emphasize the morphological vascular alterations, vascular complications is too general.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.
Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.
Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.
No

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.
Not relevant to this manuscript

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