



**SDI Review Form 1.6**

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| Journal Name:            | <a href="#">International Journal of Biochemistry Research &amp; Review</a> |
| Manuscript Number:       | 2014_IJBcRR_13997                                                           |
| Title of the Manuscript: | Effect of L-arginine in eNOS expression in heart tissues of diabetic rats   |
| Type of the Article      | Original Research Article                                                   |

**General guideline for Peer Review process:**

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound.

To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

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**PART 1: Review Comments**

|                                     | Reviewer's comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
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| <b>Compulsory</b> REVISION comments | <p><b>Very good work, innovative.</b></p> <p>The title should be edited, with eNOS written in full, thus: Effect of L-arginine on the expression of endothelial nitric oxide synthase (eNos) in heart tissues of diabetic rats</p> <p>Line 6-8: Then the second group and the third group were injected by alloxan monohydrate in dose 80 mg/kg intraperitoneally at once. The animals were scarified.....</p> <p>Correction: Then the second and the third groups were made diabetic by intraperitoneal injection of 80 mg/kg alloxan monohydrate. The animals were sacrificed and blood collected for determination of biochemical and antioxidant markers.</p> <p>The duration of treatment not given in the abstract.</p> <p>Detection of nitric oxide not explained. Indicating the type of kit not enough. At least some brief explanations.</p> | <p><b>1-Effect of L-arginine on the expression of endothelial nitric oxide synthase (eNOS) in heart tissues of diabetic rats</b></p> <p>2- Then the second and the third groups were made diabetic by intraperitoneal injection of 80 mg/kg alloxan monohydrate. The animals were sacrificed and blood collected for determination of biochemical and antioxidant markers.</p> <p>L-arginine given orally for one week in dose 100 mg/kg in sterile (0.9%) Nacl before alloxan injection then L-arginine was given for another four weeks.</p> <p>Nitric Oxide Colorimetric Assay Kit provides an accurate, convenient measure of total nitrate/nitrite in a simple two-step process. The first step converts nitrate to nitrite utilizing nitrate reductase. The second step uses Griess Reagents to convert nitrite to a deep purple azo compound. The amount of the</p> |



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|  | <p><b>A statement indicating the authors followed animal use guidelines, needs to be made.</b></p> | <p>azochromophore accurately reflects nitric oxide amount in samples. The detection limit of the assay is approximately 0.1 nmol nitrite/well, or 1 <math>\mu</math>M.</p> <p>Calculations: Absorbance was plotted at 540 nm as a function of nitrate and/or nitrite concentration (It is possible to use plate readers with filters rather far from 540 nm; e.g. 570 nm).</p> <p><b><u>Nitrate/nitrite concentration = Abs sample – blank Abs <math>\mu</math>L of sample</u></b></p> <p><b>Slope of Std curve</b></p> <p>NO-mediate regulation of beating rate and vascular permeability, respectively. when considering the effects of NO in the normal (unstressed) or diseased (stressed) hearts. The effects of endogenous NO on mitochondrial respiration, apoptosis, and hypoxia sensing as well as on myocardial O<sub>2</sub> consumption, substrate utilization, and myocardial efficiency.</p> <p>The experiments were conducted according to the ethical norm approved by Institutional Animal Ethics Committee (IAEC). they were kept at the constant environmental condition for acclimatization, food and water were provided <i>ad libitum</i> for one week before the experiment.</p> |
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| <b><u>Minor</u></b> REVISION comments | The results and discussion sections needs thorough grammar editing before publication | <b>Results section</b><br>Finally, the result shows that L-arginine improves HDL level by 97% from 17.5 mg/dl in- group I to 34.5 mg/dl in treated group (Table 1).<br><br>L-arginine decrease cholesterol level from 291.2 mg/dl in-group I to 241.7 mg/dl in treated group which means L-arginine reduced triglyceride level by 17%.<br><br>Fig. (4): Show mRNA eNOS RT-PCR analysis.<br><br>Poorly controlled long-standing metabolic disorders diabetes mellitus is frequently results in cardiovascular complications [9].<br><br>The level of MDA was significantly reduced which indicate that the reduction in the lipid preoxidation because of the treatment.<br><br>In addition, the antioxidant enzymes, catalase and reduced glutathione were significantly increased as result of the treatment indicating the reduction of |
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|  |  | oxidative stress and ROS in the treated groups, which may be, attributed an antioxidation effect of the L-arginine [12]. |
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| <p><b><u>Optional/General</u></b> comments</p> | <p>It is necessary that the authors edit grammatical errors before publication</p> | <p>Abstract<br/>In addition, the role on some antioxidant reduced glutathione<br/>Heart tissues were homogenized for determination of expression of eNOS gene by RT- PCR</p> <p>In Material and Method<br/>The MgCl<sub>2</sub> concentration used for eNOS cDNA<br/>Instead of<br/>The MgCl<sub>2</sub> concentration used for rat eNOS cDNA</p> <p>The following primer pairs used<br/>Instead of<br/>The following primer were pairs used<br/>1. Group II (Diabetic group): (N = 30). Animals served as positive control that lifts without diet over night before alloxan injection.</p> |
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