

ESPS PEER-REVIEW REPORT

Name of journal: World Journal of Gastrointestinal Pathophysiology

ESPS manuscript NO: 32970

Title: Rectification of oxygen transfer through the rat colonic epithelium

Reviewer's code: 02441737

Reviewer's country: Mexico

Science editor: Jin-Xin Kong

Date sent for review: 2017-02-08 16:13

Date reviewed: 2017-02-18 03:57

COMMENTS TO AUTHORS

Comments to the manuscript: Rectifying nature of oxygen transfer through the colonic epithelium. From the author: Fernando D. Saraví, Graciela E. Carra, Daniel A. Matus, Jorge E. Ibáñez. The aim of this study was to assess whether higher sensitivity of colonic epithelium to hypoxia at the serosal side is associated with oxygen transfer asymmetry. Comments: It is a very well design study and the issue is elegantly developed.

Title: the title is adequate

Abstract: This abstract comprehend 266 words.

Introduction: The introduction is appropriate and allows a proper understanding of the problem of study. Only it is advisable to mention some figures in relation to the clinical application of this study.

Answer to Reviewer 1: A paragraph has been added to the introduction as requested by Reviewer 1.

Material and methods: It is necessary that the author describe the following aspects:

1. Why do they have different sample size in each study group?

Answer to Reviewer 1: Study groups intended just to assess the differences between serosal and mucosal oxygen consumption demand a lower N than those intended to assess the correlation between oxygen consumption and short-circuit current.

2. Which formula, do the use to determine the sample size and to describe the mean and standard deviation used to determine de sample size?

Answer to Reviewer 1: We estimated the sample size from our previous experience with the present animal model and the experimental treatments applied.

3. If the authors determined the normal distribution of each studied variable?

Answer to Reviewer 1: Actually we did not, although from our previous published research we assumed normal distribution. In response to this observation, we tested for normal distribution with

Kolmogorov-Smirnov's test. Since in some cases the n was too small for the test to be valid, we performed additional experiments, as indicated in Table 2 (second to fifth data lines).

4. If in the design, the authors have more than one study group, to explain the reasons which they do not use ANOVA and post-hoc statistical analysis.

Answer to Reviewer 1: We actually performed ANOVA for the differences between serosal and mucosal oxygen consumption under the different experimental conditions. Since the result of the ANOVA yielded $p > 0.05$, no post-hoc test was performed.

Results: It is advisable that researchers present the significant differences in the bars of the Figure 1.

Answer to Reviewer 1: There were no significant differences between groups. The result of the ANOVA has been included in the caption of Figure 1.

ESPS PEER-REVIEW REPORT

Name of journal: World Journal of Gastrointestinal Pathophysiology

ESPS manuscript NO: 32970

Title: Rectification of oxygen transfer through the rat colonic epithelium

Reviewer's code: 00058696

Reviewer's country: United States

Science editor: Jin-Xin Kong

Date sent for review: 2017-02-08 16:13

Date reviewed: 2017-02-16 09:54

1) All results provided in the Abstract should be presented in the Results Section. Specifically: the authors should describe in the Results Section the r values for comparison of short-circuit current to both total oxygen consumption and oxygen consumption in the mucosal hemichamber.

Answer to Reviewer 2: We have included the pertinent data in the Results section, as Figure 2 of the revised manuscript.

2) These linear correlation relationships were however very modest with R -squared of 0.343 and 0.323, respectively. These two linear regression graphs are not presently shown, and so the readers do not know whether the R -values are simply related to the presence of single outliers outside the data points.

Answer to Reviewer 2: This is an important remark, since it has made us realize that values reported for R were actually values of R^2 (our mistake). Corresponding values of R are 0.765 and 0.754. The mistake has been corrected both in the Abstract, in the Results section and in Table 2. We have added a Figure (# 2 in the revised manuscript) to show the regression graphs. Furthermore, we had performed a check for outliers, and this is now indicated in the Statistical analysis section.

3) The majority of readers of this journal will not have been trained in electrophysiology. The authors must therefore clearly describe and then define what they are referring to when using the phrase "rectifying behavior".

Answer to Reviewer 2: A definition and an explanation have been included in the revised manuscript.

4) The Introduction reads more as being a "Summary" rather than outlining background information. There is no hypothesis provided by the authors in the Introduction. There are no aims provided by the authors in the Introduction.

Answer to Reviewer 2: Background information, hypothesis and aims have been provided in the revised manuscript.

5) In Materials and Methods, were the rats fed ad libitum?

Answer to Reviewer 2: Yes. This is now stated in the revised manuscript.

6) Serum Aldosterone Determination: serum was extracted and "frozen" (not freezed).

Answer to Reviewer 2: This was corrected as indicated.

7) In conclusion, page 13: sigmoid colon epithelium "in a rat model". The authors should also consider indicating the animal model in their title.

Answer to Reviewer 2: The animal model is mentioned both in the conclusion and in the title of the revised manuscript, as suggested.