Reviewer’s report

Title: Multiparametric functional magnetic resonance imaging for evaluation of hepatic warm ischemia-reperfusion injury in a rabbit model

Version: 0 Date: 14 Aug 2017

Reviewer: Quadri Alabi

Reviewer's report:

Name of the reviewer: Quad Kunle ALABI

Reviewer comments

- This is an interesting article, and this work will give clinical insight on how to use MRI techniques for diagnosis hepatic pathologies over liver biopsy techniques

Topic

- Multiparametric functional MR imaging for evaluation of hepatic warm ischemia-reperfusion injury in a rabbit model

- The authors should consider changing to "Multiparametric functional magnetic resonance imaging for evaluation of hepatic warm ischemia-reperfusion injury in a rabbit model"

Abstract page 2

The abstract is ok. But, there is minor grammatical mistake

Page 2 line 24-26

- The authors compared MR parameters between two groups. Where are the two groups in the abstract? The two groups should be mentioned in the material and methods of the abstract for clarity.

Line 30-31

- The authors should consider writing PF, MD and MD in full
The authors give only histopathological summary of WIRI group. What about the second group?

I therefore, recommend the histopathological summary of the second group. The histopathological of both groups should be compared for clarity.

Introduction

Page 3 line 30-37

I do believe that hepatic WIRI resulted to oxidative stress due to reactive oxygen species (ROS) production which eventually lead to antioxidants imbalance and inflammatory cells response.

I suggest, the authors should explain in brief, "the role of WIRI in ROS production", since they assayed for oxidative stress markers in this study.

Materials and Methods

Page 6 line 25-27

Described from were written together. I believe that is not the correct spelling.

Page 7 line 1

I suggest, the authors should explain;

How the animals were sacrificed,

How the venous blood was collected from each animal and

How the serum blood was collected and/or separated from RBCs before using it for liver function parameter

Line 14-15

Why did the authors assayed for only superoxide dismutase (SOD)? There are other enzymatic (catalase CAT, glutathione peroxidase GPX, glutathione S transferase etc) and non-enzymatic antioxidants (reduced glutathione GSH) that they can assay for. These are just to make the study more detailed.
Line 20-30

- I recommend addition of the liver histological scores of the two groups

Results

Page 8 line 35-39

- The authors should state clearly the statistical or significant difference in ALT, AST, LDH, MDA, MPO and SOD among the two groups. Are they higher or lower in WIRI group compared to control? Not really clear. This session required more statistical difference details of all these parameters.

- Generally, the authors should give more statistical details of the two groups

Discussions

This is ok

Page 9 line 45-48

* I suggest, the authors should do hepatic histological scores for the two groups to confirm the hepatocyte death, swelling and inflammatory cell infiltration.

In general, this is an interesting article, the results and conclusions well conveyed, but this is just a pilot study. More research work with larger population of subjects should be carried out. The article needs slight grammatical corrections.
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.
Yes

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.
I recommend additional statistical review

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