Reviewer’s report

Title: Pretreatment of parecoxib attenuates hepatic ischemia reperfusion injury in rats.

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Reviewer: Ahmed Taki-Eldin

Reviewer’s report:

Dear Editor,

In the reviewed manuscript, Zhang et al. examined the role of cyclooxygenase preconditioning in hepatic ischemia-reperfusion injury. They used a model of 60 minutes of ischemia and then reperfusion in sham animals, I/R animals and I/R + Pare preconditioned animals. The authors showed an increase in serum transaminases, and histopathologic necrosis in the liver after reperfusion, and a reduction in these outcomes with parecoxib treatment. The authors go on to show an increase in the mRNA of proinflammatory cytokines IL-6 and TNF-# after I/R injury and the presence of TUNEL positive cells all of which are ameliorated to some degree by preconditioning with parecoxib.

While the results are interesting, there are some critical flaws with the paper, which detract from its overall relevance:

A- Major Compulsory Revisions

1- the authors focused on one time point of the early response and did not check the effect of hepatic IR injury at other time points, also they did not explain why did they chose this particular time point?

2- They Only investigated the expression of the proinflammatory cytokines (TNF-a, IL-6) at the genetic level and did not confirm their expression at the protein level (eg by western blot or EIISA)

3- The experimental design lacks depth into how the mechanism of injury may be occurring or how parecoxib might be protecting against I/R injury. The authors should describe the mechanism of the IR injury suppression by parecoxib in more details (eg. transcription factors, adhesion molecules, nitric oxide)

4- Survival study used a deferent model (IR+30% partial hepatectomy) while the whole study was based on a model of IR without the subsequent partial hepatectomy. Survival study should be established in the same model.

5- The authors stated that (When compared to the sham group, control-treated animals showed a 5-fold increase in hepatic tissue levels of MPO (Fig.3C). This was not reduced significantly by administration of parecoxib (Fig.3C). Together, these data suggest that parecoxib administration led to a decrease of proinflammatory markers and neutrophil recruitment). How to explain this contradiction that MPO was not reduced significantly and they suggest that parecoxib administration led to a decrease of neutrophil recruitment!!
6- The discussion feels more like an attempt to validate the used assays and measured parameters. Discussion of the pathology or pathophysiology is limited.

B- Minor Essential Revisions
1- Some minor grammatical errors present in the results and discussion.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

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'