

PEER-REVIEW REPORT 1

Name of journal: Neural Regeneration Research

Manuscript NO: NRR-D-18-00547

Title: Using organotypic hippocampal slice cultures to gain insight into mechanisms responsible for the neuroprotective effects of meloxicam: a role for gamma aminobutyric and endoplasmic reticulum stress

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Date sent for review: 2018-08-14

Date reviewed: 2018-08-24

Review time: 10 Days

COMMENTS TO AUTHORS

In this manuscript entitled "Using organotypic hippocampal slice cultures to gain insight into mechanisms responsible for the neuroprotective effects of meloxicam", the authors demonstrated the protective effect of meloxicam and its possible mechanism. It is an interesting and topic with significance.

Ischemia and reperfusion injury is one of the important aspects in brain injury, thus figure out its underlying damaging mechanism and explore possible therapy method should be necessary.

Organotypic hippocampal slice cultures (OHSCs) is one of the method that including partial characters both of in vivo and in vitro, for example, OHSCs has the advantage of well controllability which shared by cell culture, it also could simulate complex cell interaction in vivo which is deficiency of cell culture. The author introduced the conception of OHSCs and its application in brain ischemia-reperfusion injury studies, as well as reviewed the previous studies that focus on the mechanisms and meloxicam therapy and analyzed the possible damaging mechanism of brain ischemia and reperfusion injury and the corresponding protective mechanisms of meloxicam. Thus they suggested that meloxicam is a potential and hopeful therapeutic method.

The paper looks good, here are two minor suggestions:

1. It would be better to give the complete word of CA injury rather than its abbreviation.
2. It is much complicated to address the brain injury and its damaging mechanisms, which still remains unclear, the same as meloxicam therapy. So the authors need to state much clearly about the relationships between brain injury and meloxicam therapy, perhaps more papers or evidence are needed.