Reviewer's report

Title: Adenosine preconditioning attenuates hepatic reperfusion injury in the rat by preventing the down-regulation of endothelial nitric oxide synthase

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Reviewer: Dr Gina Hotter

Level of interest: A paper whose findings are important to those with closely related research interests

Advice on publication: Accept after discretionary revisions

This study is an extension of the author's previous work on the preconditioning field with emphasis on possible applications of adenosine in preventing liver ischemia reperfusion injury. The mechanism is postulated to involve endothelial nitric oxide synthase. Although the findings appear to confirm the stated hypothesis, some aspects of the experimental design leave room for discussion.

Comments

Results of the present study reveals that the decrease in the immunoreactivity of endothelial nitric oxide synthase (eNOS) and liver injury after hepatic ischemia reperfusion could be both modulated by adenosine treatment. In addition, the use of L-NNA (an irreversible inhibitor of constitutive NOS as well as reversible inhibitor of inducible NOS) leads to the inhibition of the protection conferred by adenosine. From these results authors conclude that the protective role of adenosine is mediated by upregulation of endothelial NOS.

Authors should use a more specific inhibitor of endothelial NOS to be sure that the inhibition of this NOS isoform reduces the protection conferred by adenosine preconditioning, or alternatively report data (immunohistochemistry of other specific isoforms) indicative of the non-existence of any NOS up-regulation.

Competing interests:

None declared.