

PEER-REVIEW REPORT

Name of journal: World Journal of Gastroenterology

Manuscript NO: 43250

Title: Effects of positive acceleration (+Gz stress) on liver enzymes, energy metabolism, and liver histology in rats

Reviewer's code: 03027148

Reviewer's country: Japan

Science editor: Ruo-Yu Ma

Date sent for review: 2018-10-30

Date reviewed: 2018-11-06

Review time: 6 Days

SCIENTIFIC QUALITY	LANGUAGE QUALITY	CONCLUSION	PEER-REVIEWER STATEMENTS
<input type="checkbox"/> Grade A: Excellent	<input type="checkbox"/> Grade A: Priority publishing	<input type="checkbox"/> Accept	Peer-Review:
<input checked="" type="checkbox"/> Grade B: Very good	<input checked="" type="checkbox"/> Grade B: Minor language	(High priority)	<input checked="" type="checkbox"/> Anonymous
<input type="checkbox"/> Grade C: Good	polishing	<input type="checkbox"/> Accept	<input type="checkbox"/> Onymous
<input type="checkbox"/> Grade D: Fair	<input type="checkbox"/> Grade C: A great deal of	(General priority)	Peer-reviewer's expertise on the
<input type="checkbox"/> Grade E: Do not	language polishing	<input checked="" type="checkbox"/> Minor revision	topic of the manuscript:
publish	<input type="checkbox"/> Grade D: Rejection	<input type="checkbox"/> Major revision	<input checked="" type="checkbox"/> Advanced
		<input type="checkbox"/> Rejection	<input type="checkbox"/> General
			<input type="checkbox"/> No expertise
			Conflicts-of-Interest:
			<input type="checkbox"/> Yes
			<input checked="" type="checkbox"/> No

SPECIFIC COMMENTS TO AUTHORS

Some previous studies shown that the liver dysfunction occurs in pilots, however, the precise cause has not been well defined. In the present study, the authors investigated the rat liver function changes in response to repeated +Gz exposure. Over all, the study

was well designed. 1 Title reflects the main subject of the manuscript. 2 The manuscript describes the methods in adequate detail. 3 The research objectives are achieved by the experiments used in this study. And the the results have important meaning to the clinician for the treatment of ischemia-reperfusion injury. 3 The results are well discussed. However, the references should be updated and some important referneces are missing, such as Chu MJ, Premkumar R, Hickey AJ, Jiang Y, Delahunt B, Phillips AR, Bartlett AS. Steatotic livers are susceptible to normothermic ischemia-reperfusion injury from mitochondrial Complex-I dysfunction. World J Gastroenterol 2016; 22(19): 4673-4684 [PMID: 27217699]; Oliveira THC, Marques PE, Poosti F, Ruytinx P, Amaral FA, Brandolini L, Allegretti M, Proost P and Teixeira MM (2018) Intravital Microscopic Evaluation of the Effects of a CXCR2 Antagonist in a Model of Liver Ischemia Reperfusion Injury in Mice. Front. Immunol. 8:1917. PMID:29379500 doi: 10.3389/fimmu.2017.01917. 4 The language requires a minor revision.

INITIAL REVIEW OF THE MANUSCRIPT

Google Search:

- ☐ The same title
- ☐ Duplicate publication
- ☐ Plagiarism
- ☐ No

BPG Search:

- ☐ The same title
- ☐ Duplicate publication
- ☐ Plagiarism
- ☐ No

PEER-REVIEW REPORT

Name of journal: World Journal of Gastroenterology

Manuscript NO: 43250

Title: Effects of positive acceleration (+Gz stress) on liver enzymes, energy metabolism, and liver histology in rats

Reviewer's code: 02992676

Reviewer's country: Australia

Science editor: Ruo-Yu Ma

Date sent for review: 2018-10-30

Date reviewed: 2018-11-07

Review time: 7 Days

SCIENTIFIC QUALITY	LANGUAGE QUALITY	CONCLUSION	PEER-REVIEWER STATEMENTS
<input type="checkbox"/> Grade A: Excellent	<input type="checkbox"/> Grade A: Priority publishing	<input type="checkbox"/> Accept	Peer-Review:
<input checked="" type="checkbox"/> Grade B: Very good	<input checked="" type="checkbox"/> Grade B: Minor language	(High priority)	<input checked="" type="checkbox"/> Anonymous
<input type="checkbox"/> Grade C: Good	polishing	<input type="checkbox"/> Accept	<input type="checkbox"/> Onymous
<input type="checkbox"/> Grade D: Fair	<input type="checkbox"/> Grade C: A great deal of	(General priority)	Peer-reviewer's expertise on the
<input type="checkbox"/> Grade E: Do not	language polishing	<input checked="" type="checkbox"/> Minor revision	topic of the manuscript:
publish	<input type="checkbox"/> Grade D: Rejection	<input type="checkbox"/> Major revision	<input checked="" type="checkbox"/> Advanced
		<input type="checkbox"/> Rejection	<input type="checkbox"/> General
			<input type="checkbox"/> No expertise
			Conflicts-of-Interest:
			<input type="checkbox"/> Yes
			<input checked="" type="checkbox"/> No

SPECIFIC COMMENTS TO AUTHORS

This study is a well-designed study about the liver function changes in response to repeated +Gz exposure in a rat model. In this study, 90 male Wistar rats were randomly divided into a blank control group, a +6 Gz/5 min stress group, and a +10 Gz/5min

stress group. The authors assessed liver injury by measuring and recording the portal venous flow volume, serum ALT and AST, liver tissue malondialdehyde, Na⁺-K⁺-ATPase, and changes in liver histology. And a higher portal venous flow rate in rats from the 6GS group was found. And also, the hepatocyte injury was significantly lower in the 6GS group than in the 10GS group. As the results indicated, the repeated +Gz exposure transiently causes hepatocyte injury, affects liver metabolism, and morphological structure. 1 The manuscript describes the methods in adequate detail. 2 The research objectives are achieved by the experiments used in this study. The findings in this study are important to the clinicians in the treatment of ischemia-reperfusion injury. 3 Results are well displayed, and discussed. The figures are good. 4 Reference list can be updated. 5 Some minor language polishing should be revised.

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PEER-REVIEW REPORT

Name of journal: World Journal of Gastroenterology

Manuscript NO: 43250

Title: Effects of positive acceleration (+Gz stress) on liver enzymes, energy metabolism, and liver histology in rats

Reviewer's code: 01370434

Reviewer's country: Japan

Science editor: Ruo-Yu Ma

Date sent for review: 2018-10-30

Date reviewed: 2018-11-08

Review time: 9 Days

SCIENTIFIC QUALITY	LANGUAGE QUALITY	CONCLUSION	PEER-REVIEWER STATEMENTS
<input type="checkbox"/> Grade A: Excellent	<input type="checkbox"/> Grade A: Priority publishing	<input type="checkbox"/> Accept	Peer-Review:
<input type="checkbox"/> Grade B: Very good	<input checked="" type="checkbox"/> Grade B: Minor language	(High priority)	<input checked="" type="checkbox"/> Anonymous
<input checked="" type="checkbox"/> Grade C: Good	polishing	<input type="checkbox"/> Accept	<input type="checkbox"/> Onymous
<input type="checkbox"/> Grade D: Fair	<input type="checkbox"/> Grade C: A great deal of	(General priority)	Peer-reviewer's expertise on the
<input type="checkbox"/> Grade E: Do not	language polishing	<input type="checkbox"/> Minor revision	topic of the manuscript:
publish	<input type="checkbox"/> Grade D: Rejection	<input checked="" type="checkbox"/> Major revision	<input type="checkbox"/> Advanced
		<input type="checkbox"/> Rejection	<input checked="" type="checkbox"/> General
			<input type="checkbox"/> No expertise
			Conflicts-of-Interest:
			<input type="checkbox"/> Yes
			<input checked="" type="checkbox"/> No

SPECIFIC COMMENTS TO AUTHORS

The authors reported the harmful effects of +Gz stress on liver enzymes, energy metabolism, and liver morphology in rats. This study is interesting. However, there are some points to be clearly or change before publication Comments; 1.The portal venous

flow was significantly decrease after +Gz stress. However the author described that the portal vein diameter did not changed. Why did this phenomenon occur? Because, it is too strange phenomenon, the author should discuss in this manuscript. 2.The transaminases in +Gz groups were increased just after +Gz stress, but these were return to normal levels on next day. On the other hands, MDA levels were continue to increase until 24 hr after Gz stress. Why did the oxidative stress persist, but the liver function recovered? 3.The author described the hepatic ischemia/reperfusion injury were occur during +Gz stress. However hepatic transaminase is not so increased after 5-10min I/R injury in other models. Moreover, some previous papers reported that short duration of hepatic ischemia can attenuate liver I/R injury in human and animal models. Why severe liver injury was occurred after short +Gz stress (I/R injury)? 4.As the Suzuki score change, the morphological change of the liver does not appear to exist in Figure 5. Minor comment; 1.In the figures, asterisks or other marks are needed on statistically significance changes. 2.In figure 5, the photos are too small to identify the haptocellular change.

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- ☐ Duplicate publication



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PEER-REVIEW REPORT

Name of journal: World Journal of Gastroenterology

Manuscript NO: 43250

Title: Effects of positive acceleration (+Gz stress) on liver enzymes, energy metabolism, and liver histology in rats

Reviewer's code: 02992572

Reviewer's country: Japan

Science editor: Ruo-Yu Ma

Date sent for review: 2018-10-30

Date reviewed: 2018-11-09

Review time: 10 Days

SCIENTIFIC QUALITY	LANGUAGE QUALITY	CONCLUSION	PEER-REVIEWER STATEMENTS
<input type="checkbox"/> Grade A: Excellent	<input type="checkbox"/> Grade A: Priority publishing	<input type="checkbox"/> Accept	Peer-Review:
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<input type="checkbox"/> Grade C: Good	polishing	<input type="checkbox"/> Accept	<input type="checkbox"/> Onymous
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			<input type="checkbox"/> No expertise
			Conflicts-of-Interest:
			<input type="checkbox"/> Yes
			<input checked="" type="checkbox"/> No

SPECIFIC COMMENTS TO AUTHORS

I have no specific comments. The manuscript is well written. Only some minor language revisions are required.



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