PEER-REVIEW REPORT

Name of journal: *World Journal of Gastroenterology*

Manuscript NO: 83397

Title: Machine perfusion and the prevention of ischemic type biliary lesions following liver transplant. What is the evidence?

Provenance and peer review: Invited Manuscript; Externally peer reviewed

Peer-review model: Single blind

Reviewer's code: 02860506

Position: Peer Reviewer

Academic degree: MD, PhD

Professional title: Chief Doctor, Professor, Surgeon

Reviewer's Country/Territory: China

Author's Country/Territory: United Kingdom

Manuscript submission date: 2023-01-26

Reviewer chosen by: AI Technique

Reviewer accepted review: 2023-01-27 04:38

Reviewer performed review: 2023-02-07 12:51

Review time: 11 Days and 8 Hours

Scientific quality	[ ] Grade A: Excellent [Y] Grade B: Very good [ ] Grade C: Good [ ] Grade D: Fair [ ] Grade E: Do not publish
Novelty of this manuscript	[Y] Grade A: Excellent [ ] Grade B: Good [ ] Grade C: Fair [ ] Grade D: No novelty
Creativity or innovation of this manuscript	[Y] Grade A: Excellent [ ] Grade B: Good [ ] Grade C: Fair [ ] Grade D: No creativity or innovation

Scientific significance of the conclusion in this manuscript	[Y] Grade A: Excellent [ ] Grade B: Good [ ] Grade C: Fair [ ] Grade D: No scientific significance
Language quality	[Y] Grade A: Priority publishing [ ] Grade B: Minor language polishing [ ] Grade C: A great deal of language polishing [ ] Grade D: Rejection
Conclusion	[ ] Accept (High priority) [ ] Accept (General priority) [Y] Minor revision [ ] Major revision [ ] Rejection
Re-review	[Y] Yes [ ] No
Peer-reviewer statements	Peer-Review: [Y] Anonymous [ ] Onymous
	Conflicts-of-Interest: [ ] Yes [Y] No

SPECIFIC COMMENTS TO AUTHORS

In the manuscript, authors have comprehensively reviewed recent literature and summarized current progress in clinical applications of MP for potentially preventing ITBL. This topic is interesting and important, since biliary complications after liver transplant remain unconquered and the development of mechanical perfusion techniques might be promising for ITBL prevention. Overall, the manuscript was well-organized and written. However, there remains some comments taken for consideration during revision. 1. 1.0 INTRODUCTION, the author should briefly introduce the potential mechanism （elevated ROS，infiltration of immune cells，etc.） and prevention strategies of ITBL. 2.   The last paragraph in 2.2, the study about the comparison between A-NRP and HOPE has been aforementioned in 2.1 (Ref [36]). And an adequate citation should be executed in the last paragraph in 2.2. 3. Fig. 1, were there any ethic announcement to using MRCP images? 4.   In Acknowledgments, authors mentioned that "Figures created with biorender.com, accessed on January 2023." Except MRCP images, no other figures have been found. 5.   Please check the abbreviations and definitions. E.g. NRP-A or A-NRP?

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Reviewer's code: 03662585

Position: Peer Reviewer

Academic degree: MD

Professional title: Doctor

Reviewer's Country/Territory: Egypt

Author's Country/Territory: United Kingdom

Manuscript submission date: 2023-01-26

Reviewer chosen by: AI Technique

Reviewer accepted review: 2023-02-08 04:48

Reviewer performed review: 2023-02-08 05:16

Review time: 1 Hour

Scientific quality	[ ] Grade A: Excellent [Y] Grade B: Very good [ ] Grade C: Good [ ] Grade D: Fair [ ] Grade E: Do not publish
Novelty of this manuscript	[ ] Grade A: Excellent [Y] Grade B: Good [ ] Grade C: Fair [ ] Grade D: No novelty
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Re-review	[ ] Yes [Y] No
Peer-reviewer statements	Peer-Review: [Y] Anonymous [ ] Onymous
	Conflicts-of-Interest: [ ] Yes [Y] No

SPECIFIC COMMENTS TO AUTHORS

The article reflects an important topic in non anastomotic biliary structures. It explains the effect of machine perfusion techniques after DCD donor recruitment and graft outcome. This has a great impact on graft survival , patient survival, quality of life and cost of living after DDLT. Also the treatment of the non anastomotic structures could be challenging , so establishing a protocol to avoid them is beneficial especial with expanding donor pool. A limitation of the study is that there is no head to head RCT to show the impact of different techniques on graft outcome