

PEER-REVIEW REPORT

Name of journal: *World Journal of Gastrointestinal Surgery*

Manuscript NO: 84271

Title: Prevention and treatment of hepatic encephalopathy during the perioperative period of transjugular intrahepatic portosystemic shunt

Provenance and peer review: Invited Manuscript; Externally peer reviewed

Peer-review model: Single blind

Reviewer's code: 05242826

Position: Editorial Board

Academic degree: MD, PhD

Professional title: Associate Professor

Reviewer's Country/Territory: Slovakia

Author's Country/Territory: China

Manuscript submission date: 2023-03-05

Reviewer chosen by: AI Technique

Reviewer accepted review: 2023-03-13 12:43

Reviewer performed review: 2023-03-23 22:45

Review time: 10 Days and 10 Hours

Scientific quality	<input type="checkbox"/> Grade A: Excellent <input type="checkbox"/> Grade B: Very good <input type="checkbox"/> Grade C: Good <input checked="" type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
Novelty of this manuscript	<input type="checkbox"/> Grade A: Excellent <input type="checkbox"/> Grade B: Good <input type="checkbox"/> Grade C: Fair <input checked="" type="checkbox"/> Grade D: No novelty
Creativity or innovation of this manuscript	<input type="checkbox"/> Grade A: Excellent <input type="checkbox"/> Grade B: Good <input type="checkbox"/> Grade C: Fair <input checked="" type="checkbox"/> Grade D: No creativity or innovation

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

SPECIFIC COMMENTS TO AUTHORS

I read with interest the manuscript by Lan-Jing Wang, Xin Yao, Qi Qi, Jian-Ping Qin entitled "Prevention and Treatment of Hepatic Encephalopathy during the Perioperative Period of Transjugular Intrahepatic Portosystemic Shunt" although it was sometimes difficult to understand due to poor use of language. It is a narrative review focused on the description of risk factors, prevention and treatment of TIPS related HE. Overall, the manuscript suffers from all the drawbacks associated with narrative review. There is a selection of references not providing full picture of the topic, presentation reflects authors own cognitive biases and because of the lack of any methodological structure expected from systematic reviews or meta-analyses, the value of the manuscript is low and conclusions carry little impact. Other comments: 1) TIPS is an invasive radiology procedure not a surgical one. I recommend against referring to the procedure as "operation" or "surgery". 2) Description of the pathogenesis of HE in "Concepts and Classification of HE following TIPS" is an oversimplification bordering on incorrectness. 3) The chapter "EFFECTS OF SHUNTING BY LEFT AND RIGHT BRANCHES OF THE PORTAL VEIN ON HE" is poorly written and contains a lot of contradictions, e.g.

“slower blood flow velocity” in one sentence and “hyperdynamic visceral circulation” in another. Either it is slower or faster but not both. It is very confusing and difficult to follow as the authors fail to formulate to point concisely – e.g. “Furthermore, there is controversy regarding the left and right blood stratification following the accumulation of splenic vein and mesenteric blood flow in the main trunk of the portal vein in patients with cirrhotic portal hypertension” – what is left and right blood? This chapter lacks clear conclusion – is the stenting of the left portal vein branch preferable or not, or we don’t have enough data? 4) Poor grasp of statistics – e.g. “Every 1-mmHg decrease in PPG following TIPS would increase the incidence of HE following TIPS by 1.2 folds” is not correct, as the outcome measure in the referenced study was Odds ratio, thus these patients had 1.2 times higher odds of HE rather than incidence. In the same reference authors did not reference original study (DOI: 0.15403/jgld.2014.1121.243.yao) but another review. 5) Authors present their beliefs or opinions on multiple occasions which is not recommended in narrative review types of study as it reinforces the potential bias. 6) “a smaller-diameter stent can reduce the incidence of HE, despite the poor effect on reducing portal venous pressure” – incorrect – smaller diameter stent can reduce the incidence of HE because, not despite, the smaller reduction of portal venous pressure, as it is written in the previous chapter. 7) Management chapter – describe more closely what is meant by “shunting through re-intervention treatment”. 8) Manuscript lacks clear conclusion and recommendations for current clinical practice.

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Author's Country/Territory: China

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Review time: 1 Hour

Scientific quality	<input type="checkbox"/> Grade A: Excellent <input checked="" type="checkbox"/> Grade B: Very good <input type="checkbox"/> Grade C: Good <input type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
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Re-review	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Peer-reviewer statements	Peer-Review: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous
	Conflicts-of-Interest: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

SPECIFIC COMMENTS TO AUTHORS

Vey well written review on a rare clinical problem. TIPS is life saving, but sometimes complicated by hepatic encephalopathy. I recommend authors to mention the role of Zinc in this setting. Some studies have shown a beneficial role of zinc. Also there is an association between frailty and increased risk of hepatic encephalopathy, please consider mentioning this also. Improvement of frailty can have a significant positive impact

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Reviewer's Country/Territory: Italy

Author's Country/Territory: China

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Scientific quality	<input type="checkbox"/> Grade A: Excellent <input type="checkbox"/> Grade B: Very good <input checked="" type="checkbox"/> Grade C: Good <input type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
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Re-review	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Peer-reviewer statements	Peer-Review: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous
	Conflicts-of-Interest: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

SPECIFIC COMMENTS TO AUTHORS

This was an interesting review on hepatic encephalopathy (HE) in the setting of transjugular intrahepatic portosystemic shunt (TIPSS). The Authors summarized the current evidence on this topic, which is significant in clinical practice. There are, in my opinion, several points to be considered.

- Pathophysiology of hepatic encephalopathy after TIPSS has not been elucidated in a comprehensive fashion.
- The interplay between TIPSS and HE is well known. However, indications of TIPSS have changed over time. For instance, TIPSS can be considered in patients who failed endoscopic treatment of variceal bleeding, or who early rebleed. In this case, prior HE is not a contraindication to TIPSS placement. Similarly, recent data considered prior HE not a contraindication for pre-emptive TIPSS.
- How the Authors suggest to screen patients for CHE before TIPSS?
- The topic about left branch vs right branch puncture is interesting, but, as acknowledged by the Authors, it is not supported by robust data. Recent studies did not show improvements after left portal vein branch puncture. These data should be added and discussed.
- I suggest the Authors to add a Table describing what are the absolute (if any) and relative contraindications to non-urgent TIPSS placement according



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to an unacceptable risk of HE after TIPSS. -I think that the Authors should highlight that, up to now, occurrence of HE after TIPSS cannot be effectively prevented at all. Therefore, detailed information to patient and his/her relatives should be offered. - I suggest the Authors to add a table describing possible preventive and therapeutic pharmacological and non-pharmacological options for HE after TIPSS. - What is the place of bare stents for TIPSS nowadays? - Treatment of repeated HE bouts and/or persistent HE after TIPSS should be addressed (e.g., shunt closure, liver transplantation whenever possible). - I think that some information about the risk of HE in patients without cirrhosis, but with non-cirrhotic portal hypertension should be added.

RE-REVIEW REPORT OF REVISED MANUSCRIPT

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Academic degree: MD

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Reviewer's Country/Territory: Italy

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Peer-reviewer	Peer-Review: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous



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statements

Conflicts-of-Interest: [] Yes [Y] No

SPECIFIC COMMENTS TO AUTHORS

The Authors answered my previous questions no further comments.