

To editors in chief of World Journal of Hepatology:

We thank you for your consideration of our study for publication in your journal.

Attached you will find our responses to the reviewer comments:

On behalf of all the authors, thank you again,

Dr. Nikki Duong

Reviewer #1:

Scientific Quality: Grade C (Good)

Language Quality: Grade A (Priority publishing)

Conclusion: Accept (General priority)

Specific Comments to Authors: It is not written which method can be better than Doppler ultrasound in TIPS control.

As mentioned in the background of the abstract, we compared doppler ultrasound vs. the gold standard, trans-shunt venography performed by interventional radiology. Unfortunately, there are no other methods at this time that would be comparable to venography that is non-invasive and that is used in every day clinical practice.

Reviewer #2:

Scientific Quality: Grade C (Good)

Language Quality: Grade B (Minor language polishing)

Conclusion: Major revision

Specific Comments to Authors: This is an interesting paper because it tries to find out if DUS can detect with a good sensibility (is the important test to select patients for a more specific study) TIPS dysfunction, but it is not well explained and presented, needing a lot of more data for supporting their conclusions INTRODUCTION: 1.- “portosystemic gradient” the acronym is? PSG?

Thank you for this comment. I have added “PSG” in the introduction, as this is the correct acronym, to add clarity.

METHODS 2.- “Baseline TIPS patency at our institution was assessed by performing DUS 2-4 weeks after TIPS placement, 6 and 12 months”. In the written RESULTS the authors stated that Indications for TIPS revision were high doppler velocity It seems that they are referring “at revision” those patients finally studied by trans-shunt venography (TSV). Therefore, these facts should be clearly explained IN THIS SECTION.

Thank you for this comment, we agree that there should be more clarity in the results section. Therefore, we have added additional comments here to clearly explain our protocol. Essentially, patients had their TIPS assessed via ultrasound at 2-4 weeks after, 6 months and 12 months after placement. It was also assessed if clinical symptoms warranted it.

Thereafter, we referred patients to radiology for venography. 56% who were referred for revision actually had widely patent TIPS, suggesting again that ultrasound is imperfect in predicting need for revision.

3.- It is compulsory to describe in this section to describe what were the DUS criteria to diagnose or suspect dysfunction of the stent, and that determined to submit the patients "at revision" (TSV)

Normal range 90-190 cm/s

Gradient change of 50 cm/s or more across the stent is abnormal, when compared to prior "normal" ultrasound study

4.- It is stated in the discussion section that one limitation of this study was "Our study is limited due to its retrospective design and lack of predefined DUS criteria to define TIPS dysfunction", but the authors here should establish their criteria, but what were they were. velocity ?? (cut off and where was measured)

This is addressed now.

RESULTS 5.- PSG 15 .5?? Please define the unit of measurement mmHG

I have defined mmHg to be millimeters of mercury and also re-labeled the table as well to make this point very clear.

6.- The goal of this paper is to determine "the accuracy of DUS in assessing the need for TIPS revision using clinical and predictive factors". The way chose to prove it was using accuracy tests such as (sensitivity specificity and so on), but in the RESULTS SECTION the authors "stated DUS has a 40% sensitivity, 45% specificity, PPV 78%, and NPV 14% of predicting TIPS stenosis or occlusion requiring intervention ." Unfortunately, the reviewer is unable to judge and revise the accuracy of these data. We do not know where these data of sensitivity specificity, etc come from. This is something that should be added and explained in this section (table) and this is of outstanding importance in this paper

I can understand how this is confusing. We compared A) if the DUS was abnormal vs. B) if radiology actually revised the TIPS to calculate these statistical values. To add simplicity I created a new table (Table 4) as well.

7.- Moreover, It should be compared the DUS sensibility for stent dysfunction found by the authors, with the sensibility obtained (with the more useful clinical criteria indication for TIPS revision such as bleeding or ascites development). This calculated comparison will give the reader more information to understand the conclusion of the study. However, I can see the importance and interest of multivariant studies, which does not add any important clinical practical value to the study

Thank you for this comment. Over a nearly 13 year collection period, there were only 89 patients that fell into our inclusion criteria. Because of this very small sample size, you can see that 74% of these patients were referred for TIPS revision due to an abnormal doppler. Therefore because only a very small proportion were referred on the basis of clinical need, we are not able to analyze separately to give you a direct comparison. That is an inherent limitation of a retrospective study.

8.- “Among those undergoing TIPS revision followed a median” Here It should be written the number of patients at revision 39, and the number with no revision 50 , and it is stated “.. 13% underwent a subsequent liver transplant and 26% died for a transplant-free survival of 61 %”. 61% what does it mean. I do not understand it

I added the “N=39”

This means: in the TIPS revision group (the patients who had abnormal DUS then had radiology see an occlusion requiring revision), 13% of these patients ended up having a liver transplant, 26% died for other reasons. Therefore, 61% had a “Transplant free survival” meaning they are A. still alive but B. did NOT need a liver transplant. This is a good thing. Added a few words to clarify this for the reader.

9.- Which was the cut-off value used for high velocity? 10.- How many patients undergoing tips revision and how many not

Upon discussing with Radiology; the normal range of velocity is 90-190 cm/second. Therefore, the “cut off” for high velocity is 190cm/second.

As stated in the table and document, N = 39 for TIPS revision.

11.- It is written 26% died for a transplant-free survival of 61%, what does it mean, can you explain better, please

Addressed above in comment # 8.

4 LANGUAGE POLISHING REQUIREMENTS FOR REVISED MANUSCRIPTS SUBMITTED BY AUTHORS WHO ARE NON-NATIVE SPEAKERS OF ENGLISH

As the revision process results in changes to the content of the manuscript, language problems may exist in the revised manuscript. Thus, it is necessary to perform further language polishing that will ensure all grammatical, syntactical, formatting and other related errors be resolved, so that the revised manuscript will meet the publication requirement (Grade A).

Authors are requested to send their revised manuscript to a professional English language editing company or a native English-speaking expert to polish the manuscript further. When the authors submit the subsequent polished manuscript to us, they must provide a new language certificate along with the manuscript.

Once this step is completed, the manuscript will be quickly accepted and published online. Please visit the following website for the professional English language editing companies we recommend: <https://www.wjnet.com/bpg/gerinfo/240>.

5 ABBREVIATIONS

In general, do not use non-standard abbreviations, unless they appear at least two times in the text preceding the first usage/definition. Certain commonly used abbreviations, such as DNA, RNA, HIV, LD50, PCR, HBV, ECG, WBC, RBC, CT, ESR, CSF, IgG, ELISA, PBS, ATP, EDTA, and mAb, do not need to be defined and can be used directly.

The basic rules on abbreviations are provided here:

- (1) Title:** Abbreviations are not permitted. Please spell out any abbreviation in the title.
- (2) Running title:** Abbreviations are permitted. Also, please shorten the running title to no more than 6 words.
- (3) Abstract:** Abbreviations must be defined upon first appearance in the Abstract.
Example 1: Hepatocellular carcinoma (HCC). Example 2: *Helicobacter pylori* (*H. pylori*).
- (4) Key Words:** Abbreviations must be defined upon first appearance in the Key Words.
- (5) Core Tip:** Abbreviations must be defined upon first appearance in the Core Tip.
Example 1: Hepatocellular carcinoma (HCC). Example 2: *Helicobacter pylori* (*H. pylori*).
- (6) Main Text:** Abbreviations must be defined upon first appearance in the Main Text.
Example 1: Hepatocellular carcinoma (HCC). Example 2: *Helicobacter pylori* (*H. pylori*).

(7) **Article Highlights:** Abbreviations must be defined upon first appearance in the Article Highlights. Example 1: Hepatocellular carcinoma (HCC).

Example 2: *Helicobacter pylori* (*H. pylori*)

(8) **Figures:** Abbreviations are not allowed in the Figure title. For the Figure Legend text, abbreviations are allowed but must be defined upon first appearance in the text.

Example 1: A: Hepatocellular carcinoma (HCC) biopsy sample; B: HCC-adjacent tissue sample. For any abbreviation that appears in the Figure itself but is not included in the Figure Legend textual description, it will be defined (separated by semicolons) at the end of the figure legend. Example 2: BMI: Body mass index; US: Ultrasound.

(9) **Tables:** Abbreviations are not allowed in the Table title. For the Table itself, please verify all abbreviations used in tables are defined (separated by semicolons) directly underneath the table. Example 1: BMI: Body mass index; US: Ultrasound.

6 EDITORIAL OFFICE'S COMMENTS

Authors must revise the manuscript according to the Editorial Office's comments and suggestions, which are listed below:

(1) *Science editor:*

This retrospective study focused on the need of using doppler ultrasound to predict transjugular intrahepatic portosystemic shunt revision, which is an important and significant topic for clinical work. However, the quality of the manuscript is not high. The writing structure needs to be further organized and the writing language needs to be further refined. Authors need to explain data sources in more detail and analyze data results to gain a deeper understanding of the problem. Furthermore, the form of the table in the article should adopt the form of a three-line table.

Language Quality: Grade B (Minor language polishing)

Scientific Quality: Grade C (Good)

Thank you for these comments. We have edited the in-text language to further clarify for readers.

Three line tables created

(2) *Company editor-in-chief:*

I have reviewed the Peer-Review Report, full text of the manuscript, and the relevant ethics documents, all of which have met the basic publishing requirements of the World Journal of Hepatology, and the manuscript is conditionally accepted. I have sent the manuscript to the author(s) for its revision according to the Peer-Review Report,

Editorial Office's comments and the Criteria for Manuscript Revision by Authors. Please provide the original figure documents. Please prepare and arrange the figures using PowerPoint to ensure that all graphs or arrows or text portions can be reprocessed by the editor. In order to respect and protect the author's intellectual property rights and prevent others from misappropriating figures without the author's authorization or abusing figures without indicating the source, we will indicate the author's copyright for figures originally generated by the author, and if the author has used a figure published elsewhere or that is copyrighted, the author needs to be authorized by the previous publisher or the copyright holder and/or indicate the reference source and copyrights. Please check and confirm whether the figures are original (i.e. generated de novo by the author(s) for this paper). If the picture is 'original', the author needs to add the following copyright information to the bottom right-hand side of the picture in PowerPoint (PPT): Copyright ©The Author(s) 2022. Authors are required to provide standard three-line tables, that is, only the top line, bottom line, and column line are displayed, while other table lines are hidden. The contents of each cell in the table should conform to the editing specifications, and the lines of each row or column of the table should be aligned. Do not use carriage returns or spaces to replace lines or vertical lines and do not segment cell content.