

## **Responses to the Reviewer's comments**

**Manuscript NO.:** 80873, Case Report

**Treatment of portosystemic shunt-borne hepatic encephalopathy in a 97-year-old woman using balloon-occluded retrograde transvenous obliteration: A case report**

Akihiro Nishi, Tsuneaki Kenzaka, Misa Sogi, Shuichiro Nakaminato, Takahiro Suzuki

*World Journal of Clinical Cases*

Reviewer(s)' Comments to Author:

Reviewer #1:

**Scientific Quality: Grade B (Very good)**

**Language Quality: Grade B (Minor language polishing)**

**Conclusion: Accept (General priority)**

**Specific Comments to Authors:**

This paper reported a 97-year-old female patient with hepatic encephalopathy caused by shunting of the left common iliac and inferior mesenteric veins who was successfully treated by B-RTO, which has important clinical significance. Some suggestions on specific as follows: 1. Please add the change of important clinical lab index before and after treatment in order to reflect the effect more intuitively; 2. Please add the recovery time notes after the patient finished the B-RTO treatment; 3. Please add whether the elderly patients need special treatment with preoperative, intraoperative and postoperative.

**RESPONSE :** We would like to thank Reviewer 1 for their time and effort in reviewing our manuscript, and for providing comments that have significantly helped us improve our manuscript. We have made revisions based on your suggestions, and we have provided our point-by-point responses below. We hope that our responses and revisions appropriately address your comments.

1. Please add the change of important clinical lab index before and after treatment in order to reflect the effect more intuitively;

**RESPONSE :**

Thank you for your advice. According to your suggestion, we have added serum

ammonia levels before and after treatment under the TREATMENT and OUTCOME AND FOLLOW-UP sections of the revised manuscript.

2. Please add the recovery time notes after the patient finished the B-RTO treatment;

RESPONSE : Thank you for your advice. According to your suggestion, we have added the recovery time notes under the OUTCOME AND FOLLOW-UP section of the revised manuscript.

3. Please add whether the elderly patients need special treatment with preoperative, intraoperative and postoperative.

RESPONSE : Thank you for your advice. Generally, no special treatment is needed because of old age. We have noted this under the DISCUSSION section of the revised manuscript.

Reviewer #2:

**Scientific Quality: Grade D (Fair)**

**Language Quality: Grade B (Minor language polishing)**

**Conclusion: Major revision**

**Specific Comments to Authors:**

1. The new finding of this report is to make doctors consider how to approach acute confusion in the elderly. Moreover, surgical treatment nowadays has some advanced techniques available for people over 90 years old. 2. Many points need to be corrected and added. They are in the manuscript with boxes of comments. Firstly this case is not hepatic encephalopathy but should be portosystemic shunt associated hyperammonemia induced encephalopathy. Hepatic encephalopathy is a brain dysfunction caused by liver insufficiency with or without a portosystemic shunt. Thus, the main point of this terminology is an impairment of the liver, which could be an acute or chronic process, and finally results in brain dysfunction due to poor detoxification of serum ammonia. It is quite different from this case that the liver function is normal, but ammonia directly bypasses the brain via the shunt. 3. Details of the history, especially physical examinations, have to declare more information.

RESPONSE: We would like to thank Reviewer 2 for their time and effort in reviewing our manuscript, and for providing comments that have significantly

helped us improve our manuscript. We have made revisions based on your comments, and we have provided our point-by-point responses below. We hope that our responses and revisions appropriately address your comments.

2. Many points need to be corrected and added. They are in the manuscript with boxes of comments. Firstly this case is not hepatic encephalopathy but should be portosystemic shunt associated hyperammonemia induced encephalopathy. Hepatic encephalopathy is a brain dysfunction caused by liver insufficiency with or without a portosystemic shunt. Thus, the main point of this terminology is an impairment of the liver, which could be an acute or chronic process, and finally results in brain dysfunction due to poor detoxification of serum ammonia. It is quite different from this case that the liver function is normal, but ammonia directly bypasses the brain via the shunt.

**RESPONSE:** Thank you for your comment. According to the Practice Guideline by AASLD and EASL (Hepatology. 2014 Aug;60(2):715-35.), hepatic encephalopathy is defined as follows:

“Hepatic encephalopathy is a brain dysfunction caused by liver insufficiency and/or PSS”.

Based on this definition, brain dysfunction due to portosystemic shunt without liver insufficiency is also considered hepatic encephalopathy. Therefore, we have restored the text to hepatic encephalopathy. We have also included this definition and citation under the INTRODUCTION section of the revised manuscript because this may indeed be confusing to readers.

3. Details of the history, especially physical examinations, have to declare more information.

**RESPONSE:** Thank you for your comment. According to your suggestion, we have added more details on the patient's history and physical examinations in the revised manuscript.

Other comments in the manuscript:

Deletion of "case report" in Keyword

**RESPONSE:** Thank you for your correction. We have retained the “case report” keyword because this is a journal requirement, according to the “Guidelines for writing and formatting high quality Case Reports” provide by the *World Journal of Clinical Cases* website.

Abnormal behavior and speech: Authors should explain more about this problem. What is abnormal behavior? Agitation? Confusion? Aggression? What is disorganized speech? The speech problems commonly present in clinical practice are aphasia and dysarthria. For diffused cortical dysfunction, sometimes, echolalia and paraphasia are present. Is the speech fluent? Is it appropriate to the environment and situation? Did she respond well to the doctor's command? How is the orientation to time, place, and person? How is her sleep-wake cycle? Moreover, if we think that the condition of this case is similar to hepatic encephalopathy, How is the grade of West-haven or the Four criteria for evaluating hepatic encephalopathy?

**RESPONSE:** Thank you for your comment. The patient was agitated and acted strangely. She spoke fluently but said incomprehensible words. We have added more details about her abnormal behavior and speech under the *History of present illness* and *Physical examination* sections of the revised manuscript.

Other important points of this old lady are delirium and dementia. Are abnormal behavior and speech fluctuating during the day and night? Attention deficit? Memory impairment must be tested and declared. Thus, MMSE or MoCA scores are necessary. If she has undiagnosed dementia or cognitive decline, her brain is more susceptible to wasting product and easy to dysfunction.

**RESPONSE:** Thank you for your comment. Symptoms fluctuated from day to day, but the fluctuation within a particular day is unknown because she lived alone. She had no history of cognitive dysfunction. We have added more details under the *History of present illness* and *History of past illness* sections of the revised manuscript.

The grade 1 hepatic encephalopathy shows no asterixis, but slow finger movement and disrupted smooth pursuit. You can find articles of this finding.

**RESPONSE:** Thank you for your comment. We did find some articles reporting that bradykinesia and disrupted smooth pursuit eye movement significantly associate with hepatic encephalopathy. However, we were unable to examine these features in our patient because she could not follow directions. Therefore, we have not revised this part.

Investigations are enough for clinical practice.

**RESPONSE:** Thank you for your comment.

Under General anesthesia?

**RESPONSE:** B-RTO was performed under local anesthesia. We have noted this under the TREATMENT section of the revised manuscript.

Did the medical team follow this thrombosis after an operation? It could become a serious complication.

**RESPONSE:** Thank you for your comment. We followed the patient carefully, noting abdominal pain and elevated liver enzymes. We have noted this under the TREATMENT section of the revised manuscript.

How many days after treatment? How long of her hospital stay?

**RESPONSE:** Thank you for your comment. The patient's level of consciousness improved on day 21 (the day after B-RTO), and her serum ammonia levels remained within the normal range throughout subsequent hospitalizations. She was hospitalized for a total of 65 days. We have noted this under the OUTCOME AND FOLLOW-UP section of the revised manuscript.

the Editorial Office's comments

**1) Science editor:**

The manuscript has been peer-reviewed, and it's ready for the first decision.  
Language Quality: Grade B (Minor language polishing)  
Scientific Quality: Grade C (Good)

**RESPONSE:** We would like to thank the Science Editor for their time and effort in reviewing our manuscript, and for providing comments that have significantly helped us improve our manuscript. We are grateful for your positive feedback.

**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 Clinical Cases, 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. Before final acceptance, when revising the manuscript, the author must supplement and improve the highlights of the latest cutting-edge research results, thereby further improving the content of the manuscript. To this end, authors are advised to apply a new tool, the RCA. RCA is an artificial intelligence technology-based open multidisciplinary citation analysis database. In it, upon obtaining search results from the keywords entered by the author, "Impact Index Per Article" under "Ranked by" should be selected to find the latest highlight articles, which can then be used to further improve an article under preparation/peer-review/revision. Please visit our RCA database for more information at: <https://www.referencecitationanalysis.com/>.

**RESPONSE:** We would like to thank the company Editor-in-chief for their time and effort in reviewing our manuscript, and for providing comments that have significantly helped us improve our manuscript. We are grateful for your positive feedback.

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.

**RESPONSE :** Thank you for pointing this out. We have provided the original figure documents in PPT file format. Also, we have included the copyright statement in the PPT file.