

Dear Editor,

We wish to thank you and the reviewers of *World Journal of Clinical Cases* journal, for your efforts in analyzing the paper entitled “*Severe liver trauma with avulsion of right portal vein and common bile duct. Case presentation*”, submission manuscript ID: 83807.

We will explain in the following, point by point the details the responses to the referees’ comments and the accordingly performed revisions.

Reviewer #1:

1. Please use proper citation method of multiple sources for a content.

Response: We modified the references accordingly throughout the text.

2. Label each images like Fig 1 followed by A, B, C

Response: We modified the images accordingly: pages 6, 7, 8, 9, 10, 11, 12, 13, 15, 17, 18, 19, and 20.

3. Insert pointer or marker in figure to mention the particular item described in caption.

Response: We modified the images accordingly: pages 6, 7, 8, and 9.

4. Please rewrite conclusion. Conclusion should be based on the evidence provided in the manuscript not the opinion of the author.

Response: We added: “This case clearly supports that a favorable outcome in severe liver trauma with associated vascular and biliary injuries is achieved thru proper therapeutical management, conducted in a tertiary referral HPB center, where stepwise and complex surgical approach is mandatory.”

We modified the content, accordingly: page 25, “Conclusions” section.

Reviewer #2:

1. What was the duration of management initially before referral to the tertiary centre?

Response: The recorded timelapse was 24 hours.

We modified the content, accordingly: page 5.

2. What was the intraop finding at POD 9 for reexp for high output biliary drainage?

Response: The intraoperative finding was anastomotic leakage and dubious vitality of the common bile duct stump.

We added the paragraph and modified the content, accordingly: page 13.

3. In retrospect, would a left duct Hep Jejunostomy been a better option?

Response: Yes, in retrospect, it would have been a better option. But, there was no way of knowing it in advance, because the stump of the common bile duct seemed properly vascularized. Therefore, at that time an anastomoses on the left hepatic duct seemed like an excessive treatment measure.

We added the paragraph and modified the content, accordingly: page 24, last sentence of the first paragraph.

4. Among the 3 images under fig 3, one representative image can be chosen instead of 3

Response: We modified the images accordingly: pages 8, and 9.

5. What was the utility of blood products during the course of the management?

Response: Blood products was used prior and during the first operation performed in the primary emergency trauma center, as the patient was admitted in hemorrhagic shock. Only 1 unit of blood was used in our tertiary referral center during the operation for right hemihepatectomy, and none during the operation for biliary leakage.

We added the paragraph and modified the content, accordingly: page 13.

6. How long was the ICU stay?

Response: The ICU stay had a total length of 4 days, 1 day in the emergency center and 3 days in our center (2 after the operation for right hemihepatectomy, 1 after the operation for biliary leakage).

We added the paragraph and modified the content, accordingly: page 13.

7. What antibiotics were used?

Response: We used Piperacillin/tazobactam and Colistin.

We added the paragraph and modified the content, accordingly: page 13.

8. Could the initial laparotomy / ligation of the right hepatic artery been avoided?

Response: The initial laparotomy performed in the primary trauma center, that was performed in an emergency setting center could not be avoided due to patients associated hemorrhagic shock. In addition, the ligation of the right hepatic artery was mandatory due to remanent significant parenchymal bleeding despite right portal vein ligation.

We added the paragraph and modified the content, accordingly: page 24, last paragraph.

Reviewer #3:

1. The specific classification criteria of the AAST of liver trauma can be appropriately explained.

Response: The American Association for the Surgery of Trauma (AAST) classification, based on morphologic and imaging criteria, is scaled from I to VI, from the least to the most severe injury, and according to the anatomic

disruption characteristics of the liver lesions. Grades from I to V are compatible with survival, and represent increasingly complex injuries. Grade VI consists of a destructive lesion, usually incompatible with survival. This classification facilitates comparison of an equivalent injury that is manageable by several therapeutic conducts. The consecutive severity is based on potential threat to the patient's life. In clinical practice, 80-90% of the encountered liver lesions are minor and moderate.

We added the paragraph and modified the content, accordingly: page 4, 2nd paragraph.

2. In this manuscript, the authors emphasized that early diagnosis plays a pivotal role in abdominal injury. Is there any other examination method, such as MRCP?

Response: Given the emergency setting scenario of the case under discussion, the MRCP exam was not taken into consideration due to long delays consisting both in waiting list times and examination performing. In addition, a properly conducted perihepatic packing can cause artefacts and major anatomic distortions that render the MRCP exam inconclusive. We considered that intraoperative exploration of the bile ducts combined with intraoperative cholangiography, whenever deemed necessary, is optimal for this type of cases with severe hepato-biliary trauma managed with emergency packing as a first step of the surgical treatment. For example, we did not perform intraoperative cholangiography, as the surgical exploration of the bile ducts with a malleable metal probe was considered enough.

We added the paragraph and modified the content, accordingly: page 23, last paragraph.

3. There are many grammatical errors in the article, such as article misuse, word spelling mistake, punctuation misuse, etc.

Response: We corrected the grammatical errors accordingly, throughout the text.

4. It is recommended to add arrows to some pictures for better clarity, such as Figure 1 and Figure 2.

Response: We modified the images accordingly: pages: 6 and 7.

5. References are inserted incorrectly.

Response: We modified the references accordingly throughout the text.

6. The core tips should also focus on the topic of the article and give a brief overview of the patient's surgery.

Response: The paper analyzes a rare and difficult case of a 38-year-old male patient that presented to the nearest emergency hospital for polytrauma secondary to crush injury, which mainly resulted in a severe liver trauma associated with vascular and biliary injury (grade V liver trauma with severe laceration involving more than 75% of the right hemiliver, injury of the right portal vein and common bile duct). Its management consisted in emergency

damage control surgery for hemostasis by vascular ligation and packing in a primary trauma center, followed by major liver resection (right hepatectomy) and biliary reconstruction in a tertiary HPB center. The patient recovered well with no long-term complications and had a follow-up ultrasound that showed no complications. Currently, the overall survival is 55 months. In conclusion, the current case clearly supports that a favorable outcome in severe liver trauma with associated vascular and biliary injuries is achieved thru proper therapeutical management, conducted in a tertiary referral HPB center, where stepwise and complex surgical approach is mandatory.

We modified the content, accordingly: page 3.

7. It is better to point out the advantages and disadvantages of specific surgical methods and put forward treatment suggestions in the conclusion.

Response: Advantages and disadvantages of specific surgical methods:

Given the complexity of the encountered lesions, we did not consider appropriate to adopt any other therapeutic approach. A reconstruction of the right portal vein and right hepatic artery was not considered feasible, because a significant portion of the right portal vein was missing (due to associated trauma and to surgical hemostasis during the damage control surgery), because of the long ischemic time of the right hemiliver, and finally because the parenchyma of the right hemiliver was almost completely damaged by trauma.

Of note, the ligation of the right hepatic artery performed upon the damage control lapatoromy was considered mandatory due to remanent significant parenchymal bleeding despite right portal vein ligation. Moreover, the right hemiliver was already compromised by the laceration and associated right portal vein avulsion. Therefore, right hepatectomy would have been needed even in the absence of the right hepatic artery ligation.

We added the paragraphs and modified the content, accordingly: page 24, last 2 paragraphs.

Response: Treatment suggestions in the conclusion

This case clearly supports that a favorable outcome in severe liver trauma with associated vascular and biliary injuries is achieved thru proper therapeutical management, conducted in a tertiary referral HPB center, where stepwise and complex surgical approach is mandatory.

We added modified the content accordingly: page 25.

Thank you for your consideration of this manuscript.

We look forward to hearing from you.

Sincerely, yours,

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