**Author’s response to reviews**

**Title:** The effect of low central venous pressure on hepatic surgical field bleeding and serum lactate in patients undergoing partial hepatectomy: a prospective randomized controlled trial

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**Author’s response to reviews:**

Dear Guangde Tu, PhD:

Thanks for your letter about our manuscript No. BSUR-D-19-00459R1 Title: The effect of low central venous pressure on hepatic surgical field bleeding and serum lactate in patients undergoing partial hepatectomy: a prospective randomized controlled trial. According to reviewers’ advice, we tried our best to improve the manuscript and made some correction in the revised manuscript. The correction sections have been marked red in our revised manuscript. We emailed a "certificate of English editing" from Liwen Bianji to your electronic mailbox. We have addressed point-by-point response to the reviewer as follows.

Reviewer reports:

Reviewer 2 (Reviewer 3): GENERAL COMMENTS: Most of my queries have been addressed. Must admit I liked the response "the surgical professor could not cooperate." However, I do still have some reservations. In the methodology the authors have emphasized that the same surgical team resected all cases but it is not clear from how they phrased things that the same parenchymal transectional technique was used in all cases.

Response: Thank you for the suggestion. We have added a sentence “The same hepatic parenchymal transection technique was used in all patients.” on revised manuscript on Method Section, page 7, line22 and page 8, line 1.
In addition the use of PTC appears to be used on an ad hoc basis, rather than being used in all cases.

Response: Thank you for the suggestion. We can understand the reviewer's doubts about whether the patient should receive hepatic portal occlusion for minor liver resections. PTC maneuver is not a routinely method during hepatectomy even for the major liver section in many hospitals of our country. To reduce bleeding during liver resection, hepatic portal triad clamping (PTC) is routinely used in half of medical centers [Mise Y, et al. A worldwide survey of the current daily practice in liver surgery. Liver Cancer. 2013]. In our hospital, PTC is used in around 80% patients undergoing partly hepatectomy. In this present study, the written informed consent was obtained from each participant the day before surgery day. We communicated with the surgeon to confirm whether the patient was performed portal triad clamping or not. Those patients who possibly scheduled for hepatectomy with PTC were not enrolled in our study. We only chose the patients definitely scheduled for hepatectomy with PTC.

It has to be clearly stated that the same parenchymal technique was used throughout. Also in the table comparing the groups, as well as documenting duration of PTC, they have to state number of patients that it was used in e.g. for minor liver resections PTC is often not used. They should also state PTC practice e.g. 10 mins on 5 mins off?

Response: Thank you for the suggestion. We have added a sentence “The same hepatic parenchymal transection technique was used in all patients.” on revised manuscript on Method Section, page 7, line22 and page 8, line 1.

In our hospital, PTC (portal triad clamping) is not performed in around 20% patients undergoing partly hepatectomy. Patients with minor hepatectomy without portal trail clamping were not enrolled in this study. Patients undergoing elective partial hepatectomy with intraoperative PTC were enrolled in our study. In the present study, the use of portal trail clamping was determined according to the location and size of the liver mass by surgery. Actually, the choice of surgical procedures and PTC depends on the condition of patients. Therefore, we believe that our study has no effect on the surgeon's choice of hepatic portal triad clamping.

PTC was used in all the patients undergoing minor liver resections in our study. The number of such patients is 41 and 42 in the fluid restriction group and the fluid restriction + low CVP group respectively, see table 3 of manuscript. In order to illustrate the necessary of PTC in minor liver resection patients, a Chi-squared test was performed to compared the duration of PTC between the patients undergoing minor liver resection and major liver resection. The duration of PTC was 23(13,32) sec in patients with minor liver resections(n=83), the duration of PTC was 30(20.25,43.25) sec (n=56) in patients with major liver resections (X2=45.229, p=0.768). The data are presented as median and interquartile range (M (P25, P75). There is no significant difference between the patients undergoing minor liver resection and major liver resection.

According to your suggestion, we added the information “Intermittent PTC was used in cycles of 15/5 min for clamping/unclamping of the portal triad.” on Method Section, page 7 line 13-14.
I know the manuscript is primarily focusing on the anesthetic perspective but surgical technique has a big influence on events in liver surgery and the authors have to be clear on this aspect too, as these factors will confound their conclusions.
Response: We agree with your comments. We had added a sentence “To decrease the influence of surgical techniques on intraoperative blood loss and the bleeding score of the surgical field, all procedures in this study were performed by the same surgical team.” on Discussion Section, page 12 line 13-15.

Some assistance with grammar would also be of help in some sections.
Response: Thank you very much for your comments and suggestions. The help in smoothing grammar and language was provided by Liwen Bianji, Edanz Editing China (www.liwenbianji.cn/ac) again. A certificate of English editing from Liwen Bianji was emailed to editor Guangde Tu, PhD..

We have studied your comments carefully and have made correction with red marked text which we hope meet with your approval.