



The efficiency of postoperative liver failure and mortality risk scores after liver resection for perihilar cholangiocarcinoma

Qingbo Feng, Wenwei Liao, Jiaxin Li, Yong Zeng

Department of Liver Surgery & Liver Transplantation, State Key Laboratory of Biotherapy and Cancer Center, West China Hospital, Sichuan University and Collaborative Innovation Center of Biotherapy, Chengdu, China

Correspondence to: Jiaxin Li. Department of Liver Surgery & Liver Transplantation, State Key Laboratory of Biotherapy and Cancer Center, West China Hospital, Sichuan University and Collaborative Innovation Center of Biotherapy, Chengdu, China. Email: 407723080@qq.com.

Comment on: Noji T, Uemura S, Wiggers JK, *et al.* Validation study of postoperative liver failure and mortality risk scores after liver resection for perihilar cholangiocarcinoma. *Hepatobiliary Surg Nutr* 2022;11:375-85.

Submitted Jun 05, 2022. Accepted for publication Jul 08, 2022.

doi: 10.21037/hbsn-22-228

View this article at: <https://dx.doi.org/10.21037/hbsn-22-228>

With great interest, we read the literature by Noji *et al.* entitled “*Validation study of postoperative liver failure and mortality risk scores after liver resection for perihilar cholangiocarcinoma*” (1), which was published in the latest issue of *Hepatobiliary Surgery Nutrition*. The authors have reached an important conclusion that postoperative mortality risk score (POMRS) and post-hepatectomy liver failure score (PHLFS) proposed by the Academic Medical Center (AMC) and Memorial Sloan Kettering Cancer Center (MSKCC) require optimization before use in clinical practice. However, after a careful reading of this study, we would like to address several fundamental flaws related to this article.

First, there are some obvious mistakes in *Tab.* 2, 4, 5 in Ref. (1). *Tab.* 2 was listed to show the risks predicted by the post-hepatectomy liver failure (PHLF) risk score of Hokkaido University and AMC/MSKCC. To begin with, based on PHLF risk score of AMC/MSKCC (2), the predicted risk of PHLF of high risk with total points of 7 is 77% not 67% in *Tab.* 2 in Ref. (1). Furthermore, after a careful review, we noticed that the authors appeared to have made some apparent mistake inadvertently in *Tab.* 4 and 5. The number of jaundice in no 90-day mortality group is 202 [81.8]/42 [18] rather than 202 [82]/47 [18] in *Tab.* 4. Meanwhile, there is an obvious typographic error in *Tab.* 4, the number of jaundice of 90-day mortality group is reported in Wiggers *et al.*'s (3) article with 29 [72.5]/1 [27.5]. In addition, the number of portal vein reconstruction in no 90-day mortality group is 40 [16.2]/207 [83.8] rather than 51

[18]/236 [82] in *Tab.* 4. Finally, the predicted risk of POMRS of low risk with total points of 1 is 1% not 2% in *Tab.* 5.

Second, the definition of mortality is different in Noji *et al.* and Wiggers *et al.*'s studies (1,3). The definition of mortality is 90-day in-hospital death after surgery in Noji *et al.*'s study (1). While mortality is defined as any cause of death within 90 days of resection in Wiggers *et al.*'s studies (3). This might be one reason potentially lead to a relatively lower area under the curve (AUC) level of POMRS (0.58). Thus, we suggest the authors choose the same criteria to get a more accurate and reliable conclusion. Meanwhile, the definition of preoperative cholangitis is different in Noji *et al.* and Wiggers *et al.*'s studies (1,3). Preoperative cholangitis should fulfill all 3 criteria including higher than 38 °C, after new placement of a drainage catheter the temperature decreased, and/or liver abscess formation with fever in Noji *et al.* study (1). While preoperative cholangitis was defined as the patient had an episode of fever, abdominal complaints, and leucocytosis requiring (additional) biliary drainage, at any time in the preoperative course in Wiggers *et al.*'s paper (3). That's why preoperative cholangitis of POMRS did not influence 90-day mortality in the present study.

Third, as results show in the present study, longer operative time and higher volume of operative bleeding, were associated with postoperative mortality and liver failure. Therefore, we recommend the author add operative time and operative bleeding as risk factors to improve POMRS and PHLFS model for calculating postoperative

mortality and postoperative liver failure.

We thank all authors for their excellent contributions to validate the efficiency of POMRS and PHLFS for patients with perihilar cholangiocarcinoma after surgery. In our opinion, further high quality randomized controlled trials (RCTs) are still needed to further validate these findings.

Acknowledgments

Funding: This article is supported by Sichuan University from 0 to 1 project (No. 2022SCUH0017); Sichuan Science and Technology Plan Project “International cooperation in science and technology innovation/technological innovation cooperation in Hong Kong, Macao and Taiwan” (No. 2021YFH0095).

Footnote

Provenance and Peer Review: This article was a standard submission to the journal. The article did not undergo external peer review.

Conflicts of Interest: All authors have completed the ICMJE uniform disclosure form (available at <https://hbsn.amegroups.com/article/view/10.21037/hbsn-22-228/coif>). The authors have no conflicts of interest to declare.

Ethical Statement: The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are

appropriately investigated and resolved.

Open Access Statement: This is an Open Access article distributed in accordance with the Creative Commons Attribution-NonCommercial-NoDerivs 4.0 International License (CC BY-NC-ND 4.0), which permits the non-commercial replication and distribution of the article with the strict proviso that no changes or edits are made and the original work is properly cited (including links to both the formal publication through the relevant DOI and the license). See: <https://creativecommons.org/licenses/by-nc-nd/4.0/>.

References

1. Noji T, Uemura S, Wiggers JK, et al. Validation study of postoperative liver failure and mortality risk scores after liver resection for perihilar cholangiocarcinoma. *Hepatobiliary Surg Nutr* 2022;11:375-85.
2. Olthof PB, Wiggers JK, Groot Koerkamp B, et al. Postoperative Liver Failure Risk Score: Identifying Patients with Resectable Perihilar Cholangiocarcinoma Who Can Benefit from Portal Vein Embolization. *J Am Coll Surg* 2017;225:387-94. Erratum in: *J Am Coll Surg* 2018;226:945.
3. Wiggers JK, Groot Koerkamp B, Cieslak KP, et al. Postoperative Mortality after Liver Resection for Perihilar Cholangiocarcinoma: Development of a Risk Score and Importance of Biliary Drainage of the Future Liver Remnant. *J Am Coll Surg* 2016;223:321-31.e1.

Cite this article as: Feng Q, Liao W, Li J, Zeng Y. The efficiency of postoperative liver failure and mortality risk scores after liver resection for perihilar cholangiocarcinoma. *HepatoBiliary Surg Nutr* 2022;11(4):643-644. doi: 10.21037/hbsn-22-228