Letter to the Editor

More details are needed about the use of multicenter propensity score matching analysis

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Comment on: Xu XF, Wu H, Li JD, *et al.* Association of tumor morphology with long-term prognosis after liver resection for patients with a solitary huge hepatocellular carcinoma—a multicenter propensity score matching analysis. HepatoBiliary Surg Nutr 2022. doi: 10.21037/hbsn-21-423.

Submitted Jan 02, 2023. Accepted for publication Mar 22, 2023. Published online Mar 27, 2023.
doi: 10.21037/hbsn-23-5
View this article at: https://dx.doi.org/10.21037/hbsn-23-5

We read with interest a multicenter propensity score matching (PSM) analysis for patients with a solitary huge hepatocellular carcinoma (HCC), recently published in the *HepatoBiliary Surgery and Nutrition* (1). Surgical excision remains the primary treatment for solitary HCC, and researchers retrospectively compared the long-term prognosis of patients with balloon-shaped HCCs (BS-HCCs) and non-balloon-shaped HCCs (NBS-HCCs) after liver resection. As a result of PSM analysis of two different tumor morphologies, the authors stated that surgical resection prognosis for a single huge HCC was associated with preoperative imaging on tumor morphology, and patients with BS-HCCs had a better long-term survival following liver resection than those with large NBS-HCCs.

To begin with, we would like to congratulate the authors on a perfect study and acknowledge the contribution to the conclusion. For the solitary huge HCC of ≥10 cm, surgical resection is the primary treatment option, it has not yet been determined whether tumor morphology is associated with long-term survival outcomes after liver resection. This study is the first to focus on the prognostic significance of tumor morphology in solitary huge HCC resection, and the first to use PSM to analyse the relationship between tumor morphology and long-term prognosis after liver resection. These findings have great significance in clinical practice. However, it is with great regret that we suggest the authors add a little more detail.

Firstly, according to inclusion and exclusion criteria, a total of 377 patients met the requirements of the study. Then, the authors created a matching cohort of BS-HCC and NBS-HCC after 1:1 propensity score matching, and showed the characteristics of the patients after matching in *Tab. 1* (1). It is suggested that the authors should add the baseline characteristics of the 377 patients before PSM to *Tab. 1*, which can more intuitively compare the population characteristics before and after, and directly show that confounding factors are well controlled after PSM. It is recommended that the authors can adopt mirrored histogram to show that all of covariates are adequately balanced after PSM.

Secondly, in *Fig. 3*, the authors showed the curves of overall survival (OS) and recurrence-free survival (RFS) of a solitary huge HCC, and in *Fig. 4*, the authors showed OS and RFS of BS-HCC and NBS (1). However, OS and RFS curves of all patients before PSM were not shown in the article. It would be better to add the OS and RFS survival curve before PSM in the article.

Finally, when analyzing baseline characteristics of patients after PSM, the authors noted that patients also differed in other aspects of tumor morphology, such as tumor size, tumor location in the liver, and presence or absence of pedicle growth (1). We are also interested in whether these factors affect the outcome of hepatectomy, and look forward to further studies.

In conclusion, the findings of this study are helpful in directing clinical practice, and we are grateful to the authors

for their contribution. However, we would like further information about their PSM analysis. The legitimacy and reliability of this research will, we hope, be strengthened by our opinions.

Acknowledgments

Funding: None.

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-23-5/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.

Cite this article as: Feng Q, Chen X, Li H, Hao F. More details are needed about the use of multicenter propensity score matching analysis. HepatoBiliary Surg Nutr 2023;12(2):294-295. doi: 10.21037/hbsn-23-5

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