**Name of Journal:** *World Journal of Gastrointestinal Oncology*

**Manuscript NO:** 69217

**Manuscript Type:** LETTER TO THE EDITOR

**Comment on “Outcomes of curative liver resection for hepatocellular carcinoma in patients with cirrhosis”**

Tang XL *et al*. Comment on “Outcomes of curative liver resection”

Xiao-Long Tang, Yan-Dong Miao, Deng-Hai Mi

**Xiao-Long Tang, Yan-Dong Miao, Deng-Hai Mi,** The First Clinical Medical College, Lanzhou University, Lanzhou 730000, Gansu Province, China

**Xiao-Long Tang,** The Second Department of Gastrointestinal Surgery, Affiliated Hospital of North Sichuan Medical College, Nanchong 637000, Sichuan Province, China

**Deng-Hai Mi,** Dean's Office, Gansu Academy of Traditional Chinese Medicine, Lanzhou730000, Gansu Province, China

**Author contributions:** Tang XL and Miao YD designed, performed research and analyzed data; Tang XL wrote the comment; and Mi DH revised the comment.

**Supported by** The Special Plan for Condition Construction of Gansu Provincial Scientific Research Institutes, No. 20JR10RA432.

**Corresponding author: Deng-Hai Mi, MD, Chief Doctor, Dean, Professor,** The First Clinical Medical College, Lanzhou University, No. 1 Donggang West Road, Chengguan District, Lanzhou 730000, Gansu Province, China. mi.dh@outlook.com

**Received:** June 21, 2021

**Revised:** August 9, 2021

**Accepted:** December 25, 2021

**Published online:** January 15, 2022

**Abstract**

The present letter to the editor is in response to the research “Outcomes of curative liver resection for hepatocellular carcinoma in patients with cirrhosis” by Elshaarawy *et al* in *World J Gastroenterol* 2021; **13**(5): 424–439. The preoperative assessment of the liver reserve function in hepatocellular carcinoma (HCC) patients with cirrhosis is crucial, and there is no universal consensus on how to assess it. Based on a retrospective study, Elshaarawy *et al* investigated the impact of various classical clinical indicators on liver failure and the prognosis after hepatectomy in HCC patients with cirrhosis. We recommend that we should strive to explore new appraisal indicators, such as the indocyanine green retention rate at 15 min.

**Key Words:** ICG-R15; Hepatectomy; Cirrhosis; Hepatocellular carcinoma

**©The** **Author(s) 2022.** Published by Baishideng Publishing Group Inc. All rights reserved.

**Citation:** Tang XL, Miao YD, Mi DH. Comment on “Outcomes of curative liver resection for hepatocellular carcinoma in patients with cirrhosis”. *World J Gastrointest Oncol* 2022; 14(1): 366-368

**URL:** https://www.wjgnet.com/1948-5204/full/v14/i1/366.htm

**DOI:** https://dx.doi.org/10.4251/wjgo.v14.i1.366

**Core Tip:** Inappropriate hepatectomy might result in liver failure and even death for hepatocellular carcinoma (HCC) patients with cirrhosis. The main highlight of our comment is to emphasize the urgency of discovering and confirming new markers before hepatectomy in HCC patients with cirrhosis.

**TO THE EDITOR**

In “Outcomes of curative liver resection for hepatocellular carcinoma in patients with cirrhosis”, Elshaarawy *et al*[1] evaluated many classical predictors for liver failure and the prognosis in cirrhosis patients experiencing a radical resection of hepatocellular carcinoma (HCC) through univariate and multivariate analysis. They discovered that the preoperative model for end-stage liver disease (MELD) score, tumor diameter, length of hospital stays after radical resection of liver cancer, and hospital stay length were meaningful independent predictors of liver decompensation. The preoperative MELD score, various grades of posthepatectomy liver failure, and postoperative HCC recurrence after resection were meaningful independent predictors of the patients’ outcome. This study provides helpful information and is valuable for doctors to enhance the preoperative assessment of HCC patients with cirrhosis. Despite intensely appreciating this work, we believe that the research would have been much more attractive if the writer had adopted the indocyanine green retention rate at 15 min (ICG-R15). For more details about this viewpoint, we look forward to an assessment and a communication with the writers.

With the dramatic advancement of surgical techniques, the procedures of hepatectomy are getting progressively radical. Inappropriate surgery might result in liver failure and even death. It is worthwhile for surgeons to concentrate on identifying the meaningful markers of postoperative liver decompensation and the prognosis. In recent years, the ICG-R15 has gained expanded attention in assessing liver function and has been widely employed for the preoperative assessment of hepatic functional reserve. Thus, it is more attractive if the writer can further strengthen the relevant study.

Indocyanine green retention (ICG) is specifically absorbed by hepatocytes after injection, is secreted by hepatocytes into bile, and is promptly excreted through the biliary tract[2]. ICG has no chemical reaction in the body and is eliminated only through the liver. Therefore, it can be a good way to determine the liver’s functional reserve. The ICG-R15 can vary in reply to the current liver functional anomalies when there are no irregularities in many of the traditional biochemical markers. Hence, it supplies the required standards to prevent surgical trauma, blood loss through the liver, and other complications associated with acute liver failure. Recently, Kokudo *et al*[3] reported that ICG-R15 might improve the clinicians' capability to stratify patients at risk for surgical liver failure. Likewise, in a comparative analysis of 185 patients, Wang *et al*[4] found that the ICG-R15 is more reliable than the MELD score and the Child-Pugh score in indicating hepatic functional reserve before hepatectomy.

A precise assessment of the liver’s functional reserve is very essential for the proper therapy of HCC patients with cirrhosis. A proper therapy is critical to the patient’s recovery. Although no universal consensus is presently available on the assessment of liver functional reserve, we believe that we should vigorously look for more novel and valuable markers to adapt to the advancement of surgical techniques.

**ACKNOWLEDGEMENTS**

We thank the professors of the School of Foreign Languages at Lanzhou University for their assistance in the linguistic embellishment of this paper.

**REFERENCES**

1 **Elshaarawy O**, Aman A, Zakaria HM, Zakareya T, Gomaa A, Elshimi E, Abdelsameea E. Outcomes of curative liver resection for hepatocellular carcinoma in patients with cirrhosis. *World J Gastrointest Oncol* 2021; **13**: 424-439 [PMID: 34040703 DOI: 10.4251/wjgo.v13.i5.424]

2 **Inagaki Y**, Kokudo T, Kamiya M, Uno SN, Sato M, Kaneko J, Kokudo N, Urano Y, Hasegawa K. A novel liver-specific fluorescent anti-cancer drug delivery system using indocyanine green. *Sci Rep* 2019; **9**: 3044 [PMID: 30816163 DOI: 10.1038/s41598-019-39269-0]

3 **Kokudo T**, Hasegawa K, Shirata C, Tanimoto M, Ishizawa T, Kaneko J, Akamatsu N, Arita J, Demartines N, Uldry E, Kokudo N, Halkic N. Assessment of Preoperative Liver Function for Surgical Decision Making in Patients with Hepatocellular Carcinoma. *Liver Cancer* 2019; **8**: 447-456 [PMID: 31799202 DOI: 10.1159/000501368]

4 **Wang YY**, Zhao XH, Ma L, Ye JZ, Wu FX, Tang J, You XM, Xiang BD, Li LQ. Comparison of the ability of Child-Pugh score, MELD score, and ICG-R15 to assess preoperative hepatic functional reserve in patients with hepatocellular carcinoma. *J Surg Oncol* 2018; **118**: 440-445 [PMID: 30259515 DOI: 10.1002/jso.25184]

**Footnotes**

**Conflict-of-interest statement:** No conflict of interest exists in submitting this manuscript, and all authors approve the manuscript for publication. All the authors listed have approved the manuscript that is enclosed.

**Open-Access:** This article is an open-access article that was selected by an in-house editor and fully peer-reviewed by external reviewers. It is distributed in accordance with the Creative Commons Attribution NonCommercial (CC BY-NC 4.0) license, which permits others to distribute, remix, adapt, build upon this work non-commercially, and license their derivative works on different terms, provided the original work is properly cited and the use is non-commercial. See: https://creativecommons.org/Licenses/by-nc/4.0/

**Provenance and peer review:** Invited article; Externally peer reviewed.

**Peer-review model:** Single blind

**Peer-review started:** June 21, 2021

**First decision:** July 29, 2021

**Article in press:** December 25, 2021

**Specialty type:** Gastroenterology and hepatology

**Country/Territory of origin:** China

**Peer-review report’s scientific quality classification**

Grade A (Excellent): 0

Grade B (Very good): B

Grade C (Good): 0

Grade D (Fair): D

Grade E (Poor): 0

**P-Reviewer:** Huang Z, Imai N **S-Editor:** Wang JL **L-Editor:** A **P-Editor:** Wang JL



Published by **Baishideng Publishing Group Inc**

7041 Koll Center Parkway, Suite 160, Pleasanton, CA 94566, USA

**Telephone:** +1-925-3991568

**E-mail:** bpgoffice@wjgnet.com

**Help Desk:** https://www.f6publishing.com/helpdesk

https://www.wjgnet.com



**© 2022 Baishideng Publishing Group Inc. All rights reserved.**