

Laparoscopic liver resection for hepatocellular carcinoma in cirrhotic patients: a potential game changer toward global standardization of care

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There has been a growing interest in the safety and feasibility of laparoscopic liver resection (LLR) for hepatocellular carcinoma (HCC) in patients with cirrhosis. In a recent web-based anonymous international questionnaire called the INSTALL study, nearly half of the respondent surgeons from East Asia agreed with the expansion of surgical indications in cirrhotic patients if the resection was carried out laparoscopically. In contrast, less than 30% of those from Europe, North America, and other regions agreed to do so (1). Recommendations from the Second International Consensus Conference on LLR (ICLLR) held in Morioka, Japan, in 2014 concluded that although the possible reduction in postoperative ascites after minor LLR (resection of 2 or fewer Couinaud segments) for cirrhotic livers is attractive, the quality of evidence was low due to multiple complication-reporting schemas (2).

Recently, Cheung *et al.* conducted a well-designed comparative study on pure laparoscopic (n=110) versus open (n=330) liver resection in HCC patients with background cirrhosis, performed at Queen Mary Hospital between 2002 and 2015 using a propensity score matching analysis (3). The laparoscopic group demonstrated significantly less blood loss, shorter operative time, and shorter hospital stay as well as improved overall and disease-free (for stage II HCC) survival rates. The authors should be commended for their careful and in-depth comparison of the two different hepatectomy procedures. The findings of their study are

consistent with several other studies published after the Second ICLLR (4) and provide a strong body of evidence to support the superiority of LLR over open resection for HCC in patients with liver cirrhosis.

So, where does this study lead us? If LLR for HCC does expand surgical candidacy in patients with cirrhosis, it warrants a reconsideration of the current treatment guidelines. In the updated Barcelona Clinic Liver Cancer classification (5), endorsed by both (I) the American Association for the Study of Liver Diseases and; (II) the European Association for the Study of the Liver practice guidelines as the standard system for HCC management, patients with very early and early HCC (stages 0 and A) with portal hypertension are not candidates for resection. For these patients, either liver transplantation or locoregional therapy (percutaneous ethanol injection or radiofrequency ablation) is recommended based on the absence/presence of associated disease. Surgeon- and institution-related factors may affect the choice of treatment for HCC and therefore, hepatobiliary surgeons, surgical/medical oncologists, and transplant surgeons/hematologists all need to recognize that the evolution of LLR has the potential of changing the perspectives on integrated care for HCC (6).

This study also shed light on the paramount importance of patient selection and resection. Cheung *et al.* reported fewer pulmonary complication rates in the laparoscopic group due to reduced wound size, resulting in better pain

tolerance. Together with recent publications from East Asia supporting liver resection for elderly patients with HCC (7), one could recommend to cautiously increase the age limit for LLR in an era of accelerated population aging. Meanwhile, anatomical segmentectomy accounted for approximately 35% of patients in the open group, in contrast to only 10% in the laparoscopic group. It may reflect the restriction of the surgeons' freedom of movement in LLR. However, only after evaluation of technical feasibility regarding laparoscopic anatomical resection for HCC in cirrhotic liver, can we discuss the oncological outcomes of complete removal of tumor-bearing portal territory (8) by laparoscopic approach.

It is our professional obligation to "think globally, act locally" (9) to establish a standard of care for HCC, one of the leading causes of cancer-related death in the world (10).

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None.

Footnote

Conflicts of Interest: The authors have no conflicts of interest to declare.

References

- Hibi T, Cherqui D, Geller DA, et al. Expanding indications and regional diversity in laparoscopic liver resection unveiled by the International Survey on Technical Aspects of Laparoscopic Liver Resection (INSTALL) study. *Surg Endosc* 2016;30:2975-83.
- Wakabayashi G, Cherqui D, Geller DA, et al. Recommendations for laparoscopic liver resection: a report from the second international consensus conference held in Morioka. *Ann Surg* 2015;261:619-29.
- Cheung TT, Dai WC, Tsang SH, et al. Pure Laparoscopic Hepatectomy Versus Open Hepatectomy for Hepatocellular Carcinoma in 110 Patients With Liver Cirrhosis: A Propensity Analysis at a Single Center. *Ann Surg* 2016;264:612-20.
- Zhong JH, Peng NF, Gu JH, et al. Is laparoscopic hepatectomy superior to open hepatectomy for hepatocellular carcinoma? *World J Hepatol* 2017;9:167-70.
- Llovet JM, Di Bisceglie AM, Bruix J, et al. Design and endpoints of clinical trials in hepatocellular carcinoma. *J Natl Cancer Inst* 2008;100:698-711.
- Hibi T, Itano O, Shinoda M, et al. Liver transplantation for hepatobiliary malignancies: a new era of "Transplant Oncology" has begun. *Surg Today* 2017;47:403-15.
- Hung AK, Guy J. Hepatocellular carcinoma in the elderly: Meta-analysis and systematic literature review. *World J Gastroenterol* 2015;21:12197-210.
- Shindoh J, Makuuchi M, Matsuyama Y, et al. Complete removal of the tumor-bearing portal territory decreases local tumor recurrence and improves disease-specific survival of patients with hepatocellular carcinoma. *J Hepatol* 2016;64:594-600.
- Dubos R. Think globally, act locally. (Interview) *EPA Journal* 1978;4:4-11.
- Torre LA, Bray F, Siegel RL, et al. Global cancer statistics, 2012. *CA Cancer J Clin* 2015;65:87-108.

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