Background Previous studies demonstrated a promising prognosis of advanced hepatocellular carcinoma (HCC) patients underwent surgery, yet a consensus of appropriate criteria for surgery was unreached. This study aimed at establishing a prognostic score to select candidates for surgery in advanced HCC.

Methods From May 30th, 1995 to June 1st, 2017, 496 advanced HCC patients who initially underwent liver resection were consecutively collected at the First Affiliated Hospital of Sun-Yat Sen University. Patients were randomly divided into the training group (n=347) and the validation group (n=149). Least absolute shrinkage and selection operator (LASSO) regression followed by a stepwise analysis were performed to select pre-operative factors to build a prognostic score for recurrence-free survival (RFS).

Results Seven factors were selected to construct the score, which were the albumin-bilirubin (ALBI) grade ≥2, tumor size ≥5 cm, the number of tumor-invaded liver segment ≥3, hemoglobin <100 g/L, gamma-glutamyl transpeptidase ≥50 U/L, alpha fetoprotein ≥200 mg/L and portal vein tumor thrombus stage ≥3. The training group was separated into the low-risk (score <14, n=148) and high-risk groups (score ≥14, n=199). The median RFS of the low-risk group was significantly longer than that of the high-risk group (10.1 vs 2.9 months, P<0.001). In the validation group, median RFS of the low-risk group was 13.7 months, significantly longer than the high-risk group (4.6 months, P=0.002). The C-index of this score was 0.726.

Conclusions Surgery could provide promising survival for selective HCC patients in the advanced stage. We constructed a well-validated score to identify appropriate candidates for surgery in the advanced HCC patients. Surgery for patients in the low-risk group is recommended according to our results.

Background Treatment strategies for recurrent hepatocellular carcinoma (rHCC) are controversial. We used the status of microvascular invasion (MVI) at primary resection as a marker to choose the appropriate treatment options for rHCC patients in Barcelona Clinic Liver Cancer (BCLC) stage B-C.

Methods From Jun 2009 to Jun 2017, a consecutive 241 patients with postsurgical recurrence at BCLC stage B-C who received re-resection (RR), radiofrequency ablation (RFA) or transarterial chemoembolization (TACE), were enrolled. Multivariate COX regression analysis was performed to identify the prognostic factors for post-recurrence survival (PRS). PRS, overall survival (OS) and costs were compared between RR/RFA and TACE according to MVI status. A one-to-one propensity score matching analysis was performed to reduce bias.

Results For MVI(−) patients, the median PRS was 88.1 months for the RR/RFA group (n=20) and 21.1 months for the TACE group (n=49) with the HR=0.40 (P=0.014). The...