

Characteristics and risk factors of extrahepatic recurrence after hepatectomy of hepatocellular ca

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Background/Aims: Extrahepatic recurrence (EHR) is a well-known poor prognostic factor regarding hepatocellular carcinoma (HCC). Although EHR after hepatectomy of HCC may occur in high risk group of patients, little is known about EHR when there are no intrahepatic HCC. We investigated the clinical features and risk factors regarding EHR without remnant intrahepatic HCC at the time of EHR diagnosis.

Methods: Among 1,069 treatment-naive patients who underwent curative hepatectomy for HCC at four tertiary academic hospitals from January 2004 to December 2019, after exclusion of patients with intrahepatic recurrence (IHR) or EHR with IHR, and patients with insufficient clinical records, finally 569 patients were enrolled. The median follow-up duration was 3.91 years and multivariate analysis via Cox-regression was performed to identify the variables associated with EHR.

Results: Thirty-eight patients developed EHR after hepatectomy without remnant intrahepatic HCC during median follow-up duration of 1.04 years. Patients with EHR demonstrated significant early initial HCC recurrence than the patients without EHR; 1.73 vs. 4.43 years, respectively. On multivariate analysis, compared to patients without EHR, patients with EHR (without IHR) showed higher portion of venous/lymphatic involvement (HR 2.418, $p=0.020$), tumor necrosis (HR 2.592, $p=0.009$) and initial tumor stage beyond Milan criteria (HR=3.008, $p=0.001$). Also on analysis of factors related to survival after surgical resection of HCC, EHR was strongly associated with poor survival on multivariate analysis via Cox-regression (HR=14.044, $p<0.001$). Not only the cumulative rates of EHR correlated with the numbers of risk factors but also the survival rates also exhibited step-wise relationship.

Conclusions: EHR without remnant viable HCC may occur in considerable number of patients after hepatectomy for HCC. Close monitoring for EHR is warranted in high risk group of patients despite of no HCC in liver.

