Consequences of Post Hepatectomy Failure on overall survival for HCC patients in Mongolia

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Background: Posthepatectomy liver failure (PHLF) is a major complication after hepatectomy and main cause of post-operative mortality. The International Study Group of Liver Surgery (ISGLS) defined PHLF as increased international normalized ratio (INR) and hyperbilirubinemia on or after postoperative day 5 in 2010. We evaluated the impact of PHLF on overall survival for hepatocellular carcinoma (HCC) patients, who underwent major and moderate liver resection.

Methods: We retrospectively analyzed 864 consecutive HCC patients who underwent curative hepatectomy at National Cancer Center from 2008 to 2013 and data were collected and analyzed using SPSS 20.0

Inclusion criteria
- HCC patients
- Child-Pugh-Turcott Grade A
- Medium and Major liver resections (>2 segments)
- Completeness of data for evaluation using PHLF grading by ISGLS 2010

Exclusion criteria
- Non-HCC liver malignancy
- Child-Pugh-Turcott Grade B
- Minor Liver resections (<2 segments/tumorectomy)
- Incompleteness of data for evaluation using PHLF grading by ISGLS 2010

Results: 245 patients who met selection criteria were identified for evaluating PHLF. 91 cases (47%) without PHLF and 155 (63.0%) patients fulfilled the ISGLS definition of PHLF. 30 day and 90 days postoperative mortality were 6.5% and 9.8% respectively. Overall survival (OS) rates at 1, 3, and 5 years in patients with/without PHLF were 58.7/80.2, 40.8/65.8, and 26.4/28.1 %, respectively (P<0.001). Multivariate analysis revealed that PHLF was significantly associated with OS (P<0.001). Major resection (P=0.006), portal hypertension (P=0.031), and pre-operative total bilirubin >17mmol/l (P=0.040) and AJCC TNM stage ≥3 were identified as independent risk factors for developing PHLF.

Conclusion: The Posthepatectomy liver failure (PHLF) was associated with overall survival (OS) in HCC patients.

Keywords: ISGLS, PHLF, HCC, Postoperative mortality, Overall survival