LV-OP-1-6

Cross-match as an immuno-oncological risk factor for hepatocellular carcinoma recurrence and inferior survival after living donor liver transplantation: A call for further investigation

Cheng-Maw HO*, Rey-Heng HU, Yao-Ming WU, Ming-Chih HO, Po-Huang LEE

Department of Surgery, National Taiwan University Hospital, Taipei, Taiwan

Introduction: The success of immunotherapy for patients with hepatocellular carcinoma (HCC) suggest that immune dysregulation occurs in HCC patients. This warrants an immuno-oncological risk assessment in the platform of liver transplantation.

Methods: This retrospective single-center study analyzed risk factors for—particularly cross-matching performed through conventional complement-dependent cytotoxicity cross-match tests—and the outcomes of HCC recurrence following living donor liver transplant.

Results: A total of 71 patients were included. The median follow-up period was 29.1 months. Seventeen (23.9%) patients had post-transplant HCC recurrence, and their 1-, 3-, and 5-year survival rates were 70.6%, 25.7%, and 17.1%, respectively, which were inferior to those of patients without HCC recurrence (87.0%, 80.7%, and 77.2%, respectively [$p < 0.001$]). In addition to microvascular invasion, positive cross-match results for B cells at 37°C (B- 37°C) or T cells at 4°C (T- 4°C) was associated with inferior overall survival in multivariable analysis after adjustment for tumor status beyond Milan criteria and elevated alpha-fetoprotein levels. Rejection alone cannot be the mechanism underlying the effects of positive cross-match results on patient outcomes. Adjusted survival curves suggested that positive cross-match B- 37°C or T- 4°C was associated with inferior recurrence-free and patient survival, but the robustness of the finding was limited by insufficient power.

Conclusions: Additional large-scale studies are required to validate positive cross-match as an immuno-oncological factor associated with HCC recurrence and inferior patient survival.

Corresponding Author: Cheng-Maw HO (mingho@ntu.edu.tw)

Presenter: Cheng-Maw HO (mingho@ntu.edu.tw)

Copyright © The Korean Association of Hepato-Biliary-Pancreatic Surgery

This is an Open Access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (<http://creativecommons.org/licenses/by-nc/4.0>) which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.