Impact of everolimus on survival after liver transplantation for hepatocellular carcinoma

Incheon Kang¹, Dong Jin Joo²

¹Division of Transplantation, Department of Surgery, CHA Bundang Medical Center, Seongnam, Korea

²Division of Transplantation, Department of Surgery, Yonsei University College of Medicine, Seoul, Korea

Background: The objective of this study was to investigate whether everolimus (EVR) use affects long-term survival after liver transplantation (LT) in patients with hepatocellular carcinoma (HCC).

Methods: Data from 303 consecutive patients with HCC who underwent LT were retrospectively reviewed. The patients were divided into two groups: (1) patients treated with EVR in combination with calcineurin inhibitors (CNI) (EVR group, n=114), and (2) patients treated with CNI-based therapy without EVR (non-EVR group, n=189). Disease-free survival (DFS) and overall survival (OS) were compared between two groups, and prognostic factors for DFS and OS were evaluated.

Results: The EVR group exhibited more aggressive tumor biology than the non-EVR group, including a higher number of tumors ($P=0.003$), a higher prevalence of microscopic vascular invasion ($P=0.017$), and cases exceeding Milan criteria ($P=0.029$). Compared with the non-EVR group, the EVR group had significantly better DFS ($P=0.029$) and OS ($P<0.001$). In multivariate analysis, use of EVR was identified as an independent prognostic factor for DFS (hazard ratio [HR], 0.248; $P=0.001$) and OS (HR, 0.145; $P<0.001$).

Conclusions: In combination with CNI, EVR has the potential to prolong long-term survival in patients undergoing LT for HCC. These findings warrant further investigation in a well-designed prospective study.

Corresponding author: Dong Jin Joo

E-mail: djjoo@yuhs.ac

© The Korean Society for Transplantation

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.