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Effect of Everolimus on Hepatocellular Carcinoma Recurrence after Liver Transplantation

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Introduction : This study was retrospectively conducted to reveal the effect of everolimus (EVR) particularly in the HCC patients who underwent liver transplantation (LT).

Methods : Total 311 HCC patients underwent LT during the study period. We divided the patients into two groups; TAC group and EVR group. TAC group maintained their TAC blood level around 5-8 ng/mL. EVR blood level was around 3-5 ng/mL with low dose TAC < 5 ng/mL. We compared the oncologic outcomes.

Results : Seventy-seven recipients (24.8%) had tumors above Milan criteria (MC) before LT. The number of EVR group was 114 (36.7%), TAC group was 197 (63.3%). More LDLTs were performed in EVR group (78.1%) than TAC group (65.0%; p=0.015). EVR group included more patients with above MC than TAC group (32.5% vs 10.3%, p=0.020). However, HCC recurrence happened more in TAC group than in EVR group (19.3% vs 9.6%, p=0.025). EVR group showed better outcomes both in recurrence-free survival and overall patient survival rates (p=0.029 and p< 0.001, respectively). EVR group within MC showed better recurrence-free survival than TAC group, but there was no significant difference between two groups who had tumors beyond MC. However, in the overall patient survival rates, EVR group showed better outcomes than TAC group regardless of their tumor status. In the Cox regression analysis, EVR was an independent factor decreasing risk of HCC recurrence after LT (HR: 0.352, p=0.003).

Conclusions : EVR-based immune suppression showed better oncologic outcomes after LT for HCC patients and was an independent factor decreasing the risk of HCC recurrence.

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