Venous outflow congestion is related to poor recurrence-free survival of living donor liver transplantation recipients with hepatocellular carcinoma

Jinsoo Rhu

Division of Transplantation, Department of Surgery, Samsung Medical Center, Seoul, Korea

Background: This study analyzed the impact of venous outflow congestion in the liver graft on hepatocellular carcinoma recurrence in liver transplantation recipients.

Methods: Hepatocellular carcinoma patients who underwent living donor liver transplantation at Samsung Medical Center between 2007 and 2018 were included. The congested volume was calculated based on 2-week post-transplantation computed tomography. Recurrence-free survival and overall survival were analyzed using the multivariable Cox proportional hazard model including the degree of venous congestion.

Results: A total of 582 patients were included. There were 232 patients (39.9%) with certain degree of congestion volume. Kaplan-Meier survival analyses showed 1-, 5-, and 10-year recurrence-free survivals of 86.0%, 72.2%, and 70.7%, respectively, and overall survivals of 91.5%, 73.4%, and 68.9%, respectively. While congestion volume per 10 cm³ was a significant risk factor for recurrence-free survival (hazard ratio [HR], 1.021; 95% confidence interval [CI], 1.005–1.038; P=0.010), there was no significant relationship with overall survival (HR, 1.012; 95% CI, 0.997–1.028; P=0.111).

Conclusions: Venous outflow congestion in the liver after living donor liver transplantation was related to the poor recurrence-free survival of hepatocellular carcinoma patients.

Corresponding author: Jinsoo Rhu

E-mail: jsrrules@gmail.com

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